

(No Model.)

J. DONALD.
WASHING MACHINE.

No. 312,982.

Patented Feb. 24, 1885.

Fig. 1.

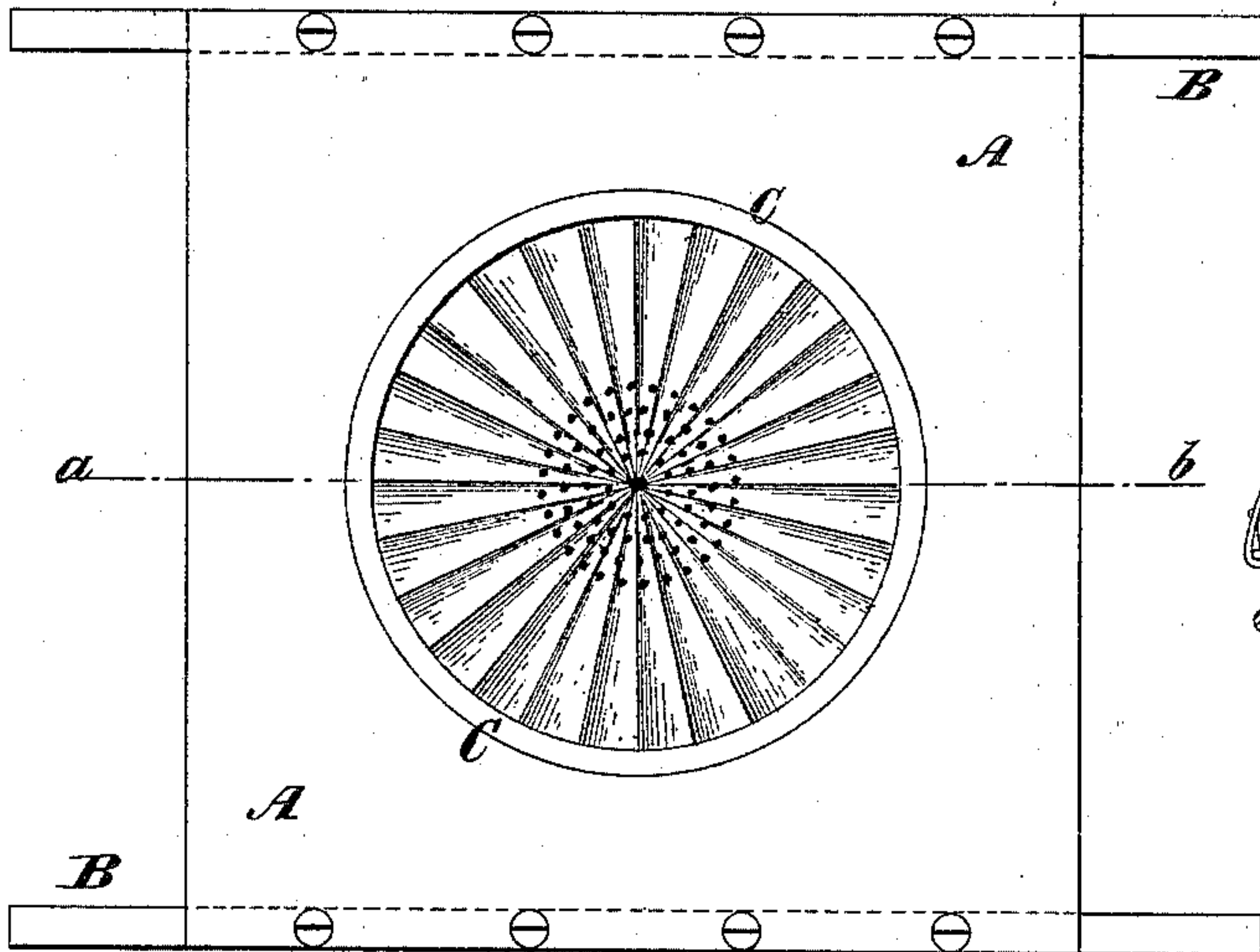


Fig. 2.

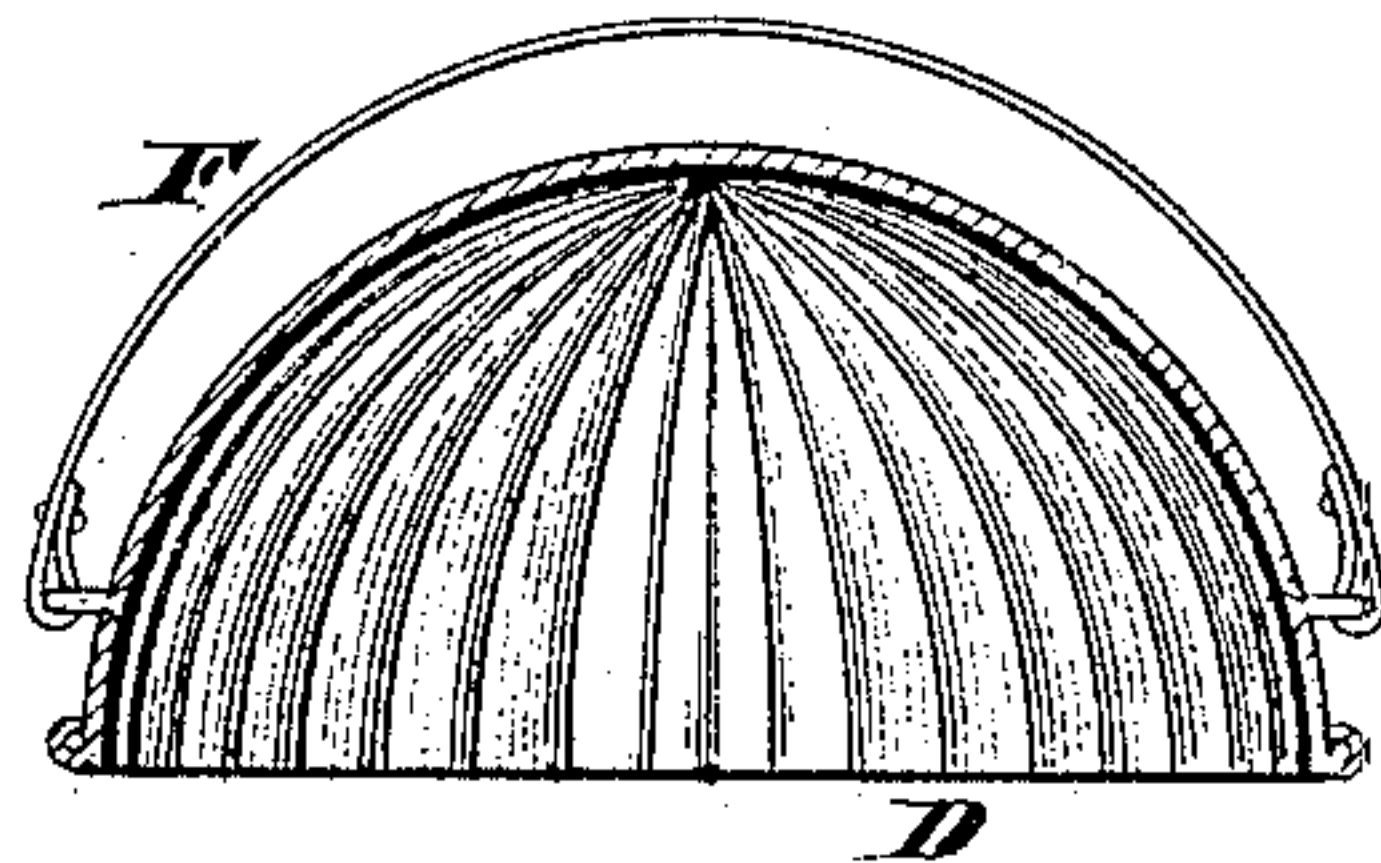


Fig. 3.



Fig. 4.

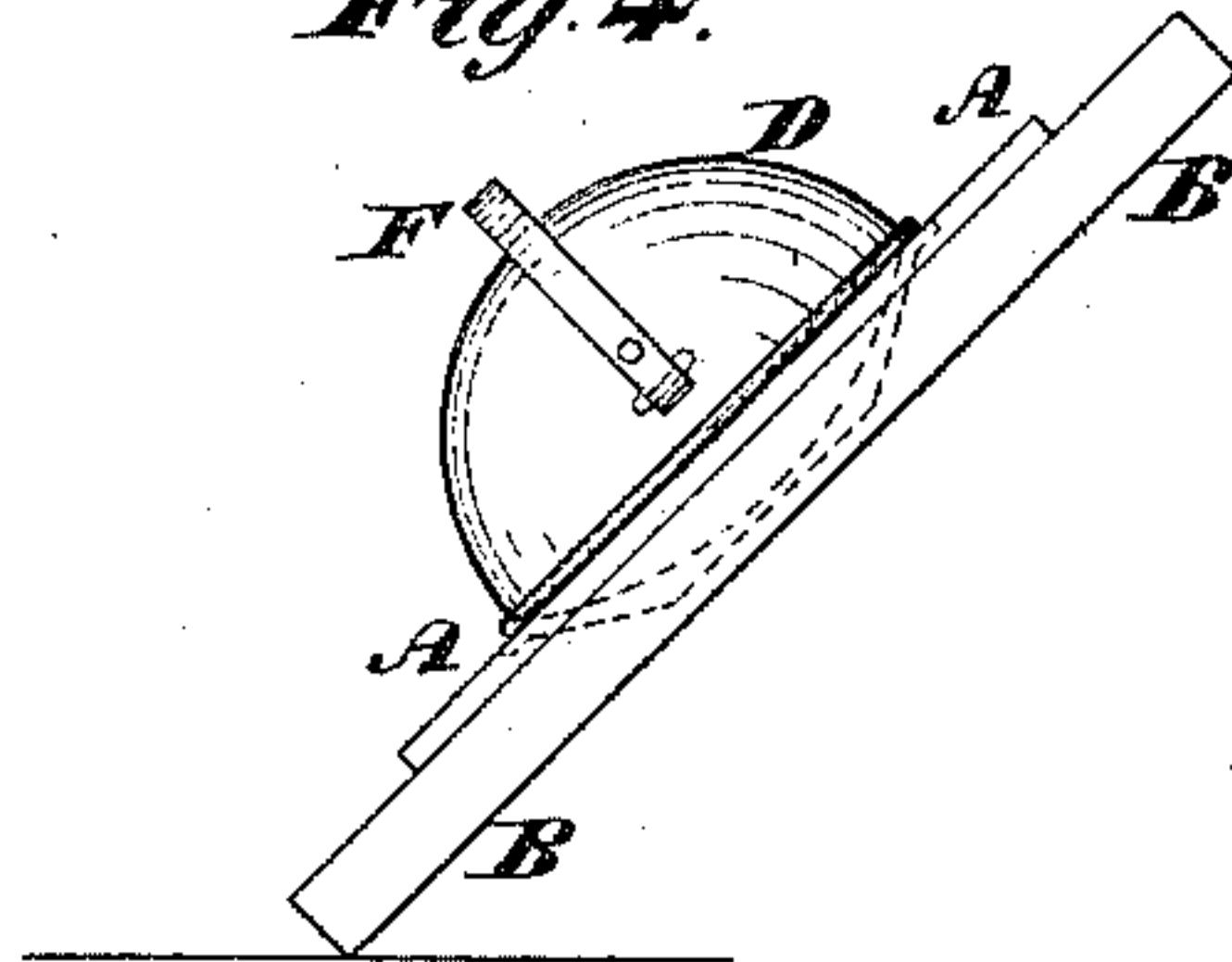


Fig. 6.

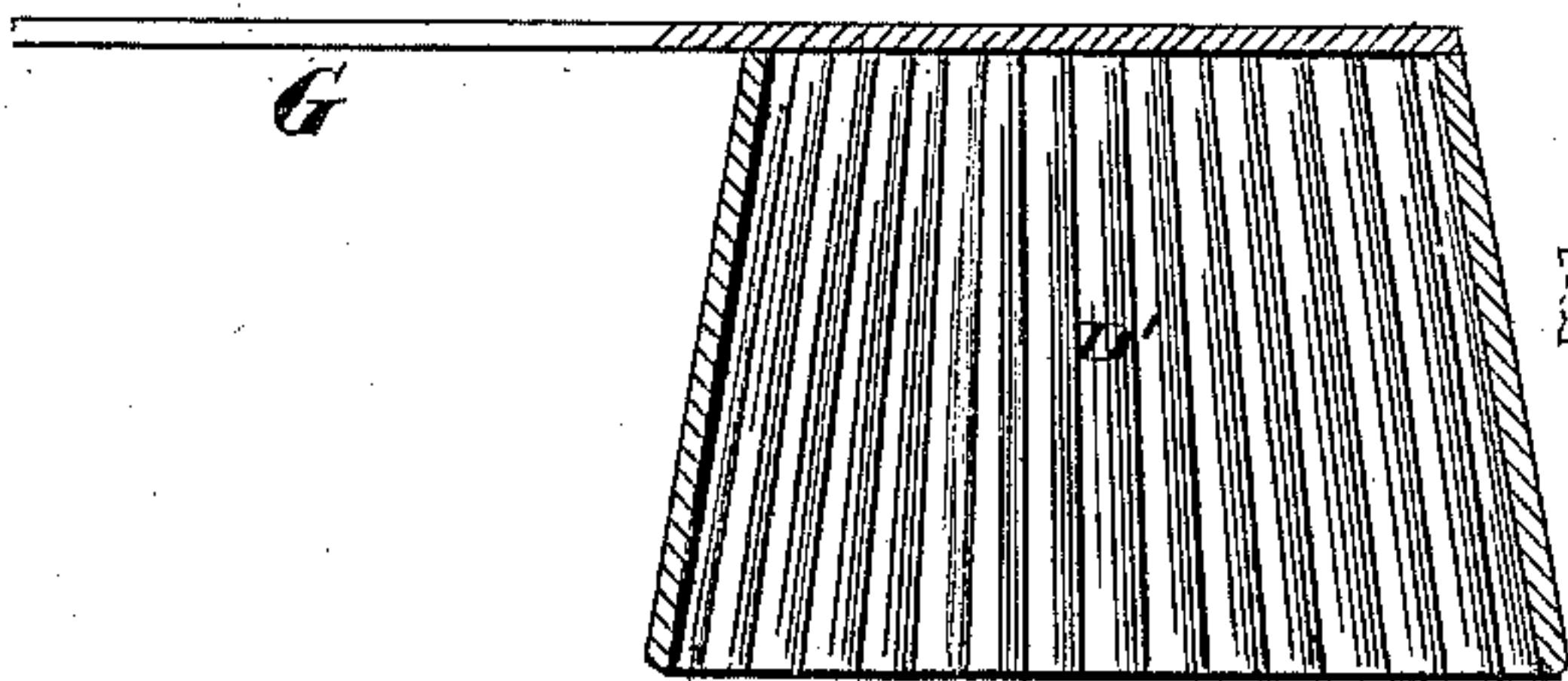


Fig. 5.

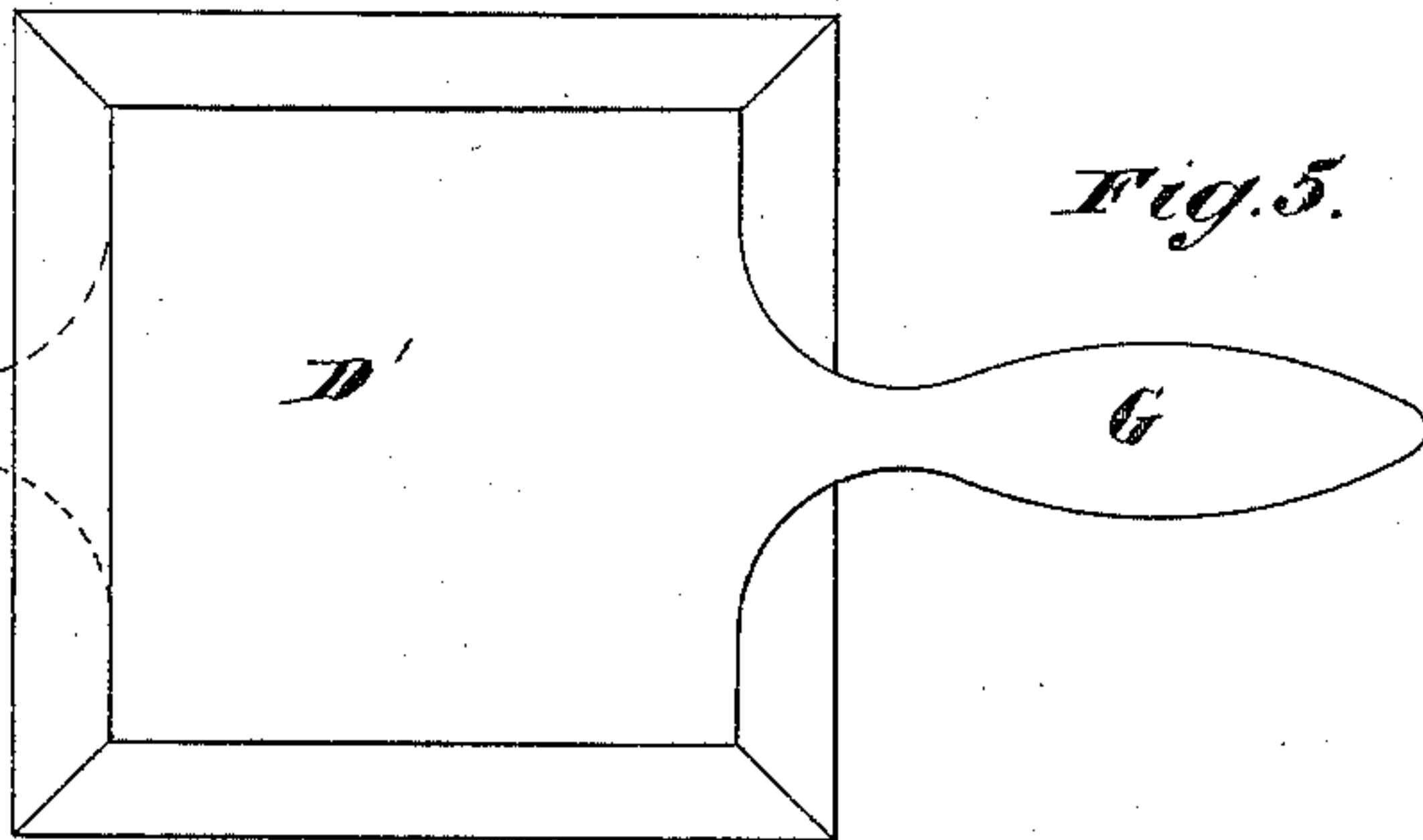


Fig. 8.

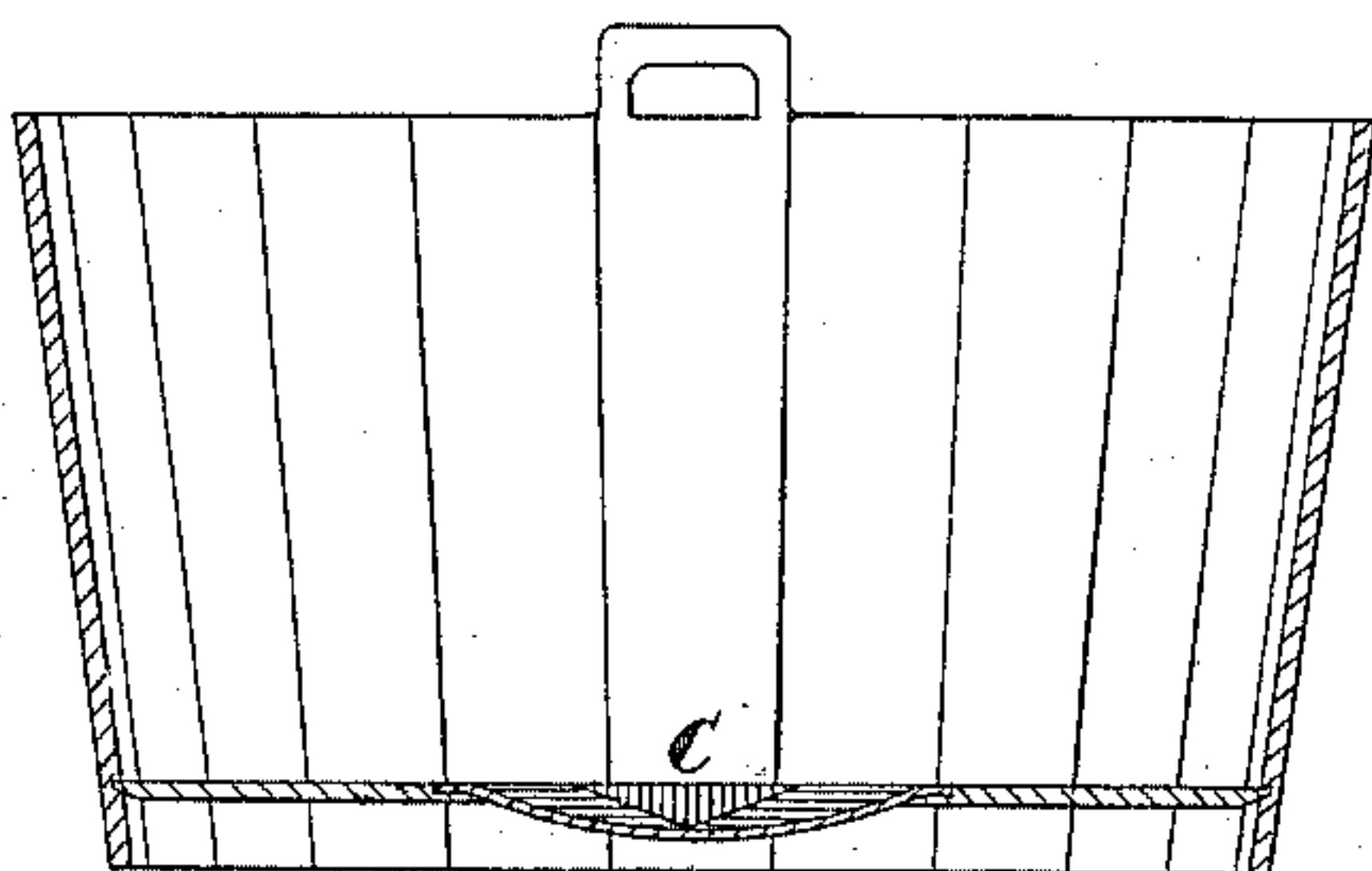
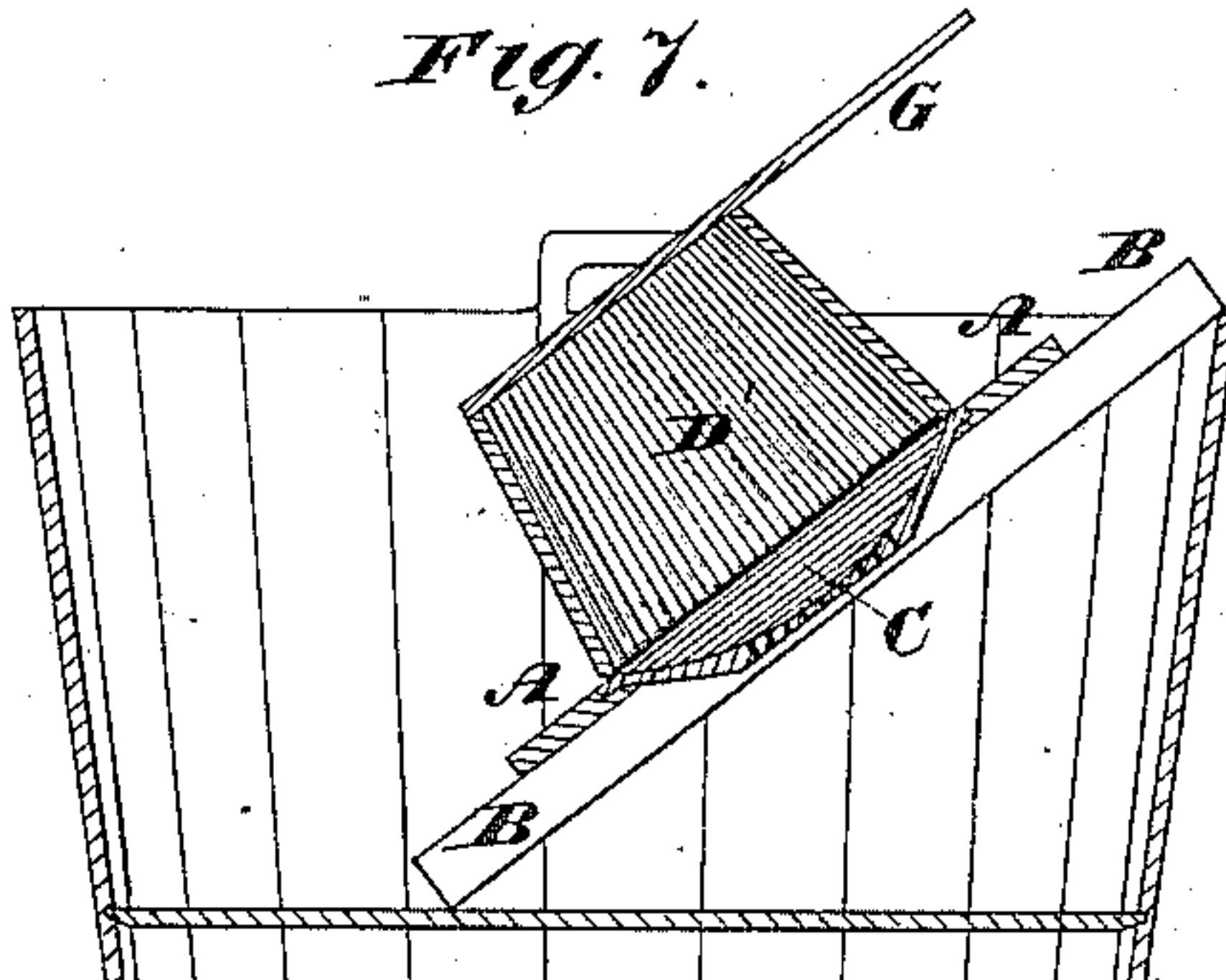


Fig. 7.



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UNITED STATES PATENT OFFICE.

JAMES DONALD, OF GLASGOW, COUNTY OF LANARK, SCOTLAND.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 312,982, dated February 24, 1885.

Application filed November 7, 1883. (No model.) Patented in England October 6, 1883, No. 4,753.

To all whom it may concern:

Be it known that I, JAMES DONALD, a citizen of the United Kingdom of Great Britain and Ireland, residing at Glasgow, in the county of Lanark, Scotland, have invented Improvements in Washing-Machines, (for which I have received Letters Patent in Great Britain bearing date the 6th day of October, 1883, No. 4,753;) and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the manufacture to which it appertains to make and use the same.

This invention, which relates to improvements in machines or apparatus for washing clothes, fabrics, tissues, fibers, and the like, is applicable to hand and also to power driven washing-machines.

On the appended drawings, Figure 1 is a plan, and Fig. 2 a vertical section, of the two component parts of the washing machine or apparatus as constructed in accordance with one modification of my invention. Fig. 3 is a transverse vertical section on the line *a b*, Fig. 1. Fig. 4 is an elevation of these two parts when together in position for washing. Fig. 5 is a plan, and Fig. 6 is a vertical section, of an alternative arrangement of rubber, which may be used in lieu of that shown at Figs. 2 and 4. Fig. 7 is a vertical section of the improved apparatus, showing the rubber, Figs. 5 and 6, in combination with the part illustrated at Figs. 1 and 3. Fig. 8 is an alternative arrangement for Fig. 1.

As shown by Figs. 1 to 4, the washing machine or apparatus constructed in accordance with this invention consists of a flat board or surface, *A*, mounted on runners or supports *B*, and having at its center a concave or dished portion, *C*, which may either be in one piece with the board *A* or separate from it, in which latter case it may conveniently be made of zinc or other sheet metal, porcelain, earthenware, or other like substance, and placed in position as illustrated at Fig. 3. When made separate, it may constitute a basin or utensil, and be employed for any ordinary purpose when not being used for the purposes of this invention.

Under any of the modes of construction

the interior concave surface is made with corrugations, flutes, or undulations, which may either radiate from the center of the concavity, as shown in Fig. 1, or be in concentric rings around it, as shown at Fig. 3, it being understood that I do not confine myself to any arrangement of the serrations, flutes, or corrugations. In the bottom of the concavity a series of holes or interstices are made, to permit, when the apparatus is used in a tub, of water or other washing-liquid passing freely into the part *C*; but when located in the bottom of the tub, as shown in Fig. 8, it is imperforate. In conjunction with either of these arrangements of the board a hollow vessel or rubber is employed, which vessel or rubber may be hemispherical, as seen at *D*, Fig. 2, or dome-shaped, or of other rounded form; or it may be triangular or rectangular, as at *D'*, Figs. 5 and 6, with its sides parallel or inclined to any desired angle from the open base toward the top.

The vessel or rubber may be of wood, zinc, or other sheet metal, porcelain, or other potter's ware or material, and the whole interior surface of the vessel or rubber is also preferably corrugated, fluted, or undulated, the corrugations, undulations, or flutes being arranged in any suitable manner. When of the form shown at Fig. 2, or of an approximate shape, a strap, *F*, may be provided to give purchase to the hand or hands in operating the rubber, the ends of the said strap being secured by studs, rivets, or otherwise to the rubber, and when of a form approximate to that shown at Figs. 5 and 6 a handle or handles is or may be made on the top or sides of the rubber, as seen at *G*; or a handle or handles may be made on the rubber, Fig. 2, and a strap provided in conjunction with that shown at Figs. 5 and 6.

In operating with the apparatus, the articles to be washed, after being soaped, are placed in the rubber *D* or *D'*, which is then turned with its open end downward, and so that its edges bear on the flat surface of the board *A*, and by passing the hand under the strap *F*, or by grasping the handle or handles *G*, the rubber is operated over the concavity *C* of the board *A*, or over an ordinary wash-board. The motion given to the rubber may

be rectilinear, circular or eccentric circular, or a compound reciprocating and eccentric circular motion, by which means it is found that a very effective and speedy cleansing action is produced on the materials being operated upon.

To give, if desired, an additional cleansing effect on parts of materials which may be more soiled than the remainder, the said parts, after being soaped, and with or without the presence of water, may be rubbed or beaten with the outside or top of the rubber; or the said parts may be rubbed against the board A with the lower edge of the rubber.

As shown at Fig. 8, the concave part C, instead of being made in a separate washing-board A, may be made in the bottom of the tub itself, and the rubber D or D' used in conjunction therewith.

All the corrugated, undulated, serrated, or fluted surfaces in the improved machine or apparatus may be covered with or made in sheet india-rubber or other like substance when required.

Having now described the said invention, what I desire to secure by Letters Patent is—

1. A washing-machine consisting of a board, A, having a basin, C, and a vessel, D, having a handle, by which a rectilinear, circular or eccentric circular, or a compound reciprocating and eccentric circular motion may be imparted to the vessel, the vessel forming a receptacle into which the articles to be cleansed are placed.

2. A washing-machine consisting of a board, A, having a basin, C, formed with a ribbed interior, and a clothes-receptacle, D, formed with a ribbed interior, and having a handle, by which a rectilinear, circular or eccentric circular, or a compound reciprocating and eccentric circular motion may be imparted to the vessel, as set forth.

In testimony whereof I have hereunto set my hand and seal this 23d day of October, in the year of our Lord 1883.

JAMES DONALD. [L. S.]

Witnesses:

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