

No. 766,097.

PATENTED JULY 26, 1904.

H. A. BIERLEY.
WASHING MACHINE.

APPLICATION FILED MAR. 7, 1904.

NO MODEL.

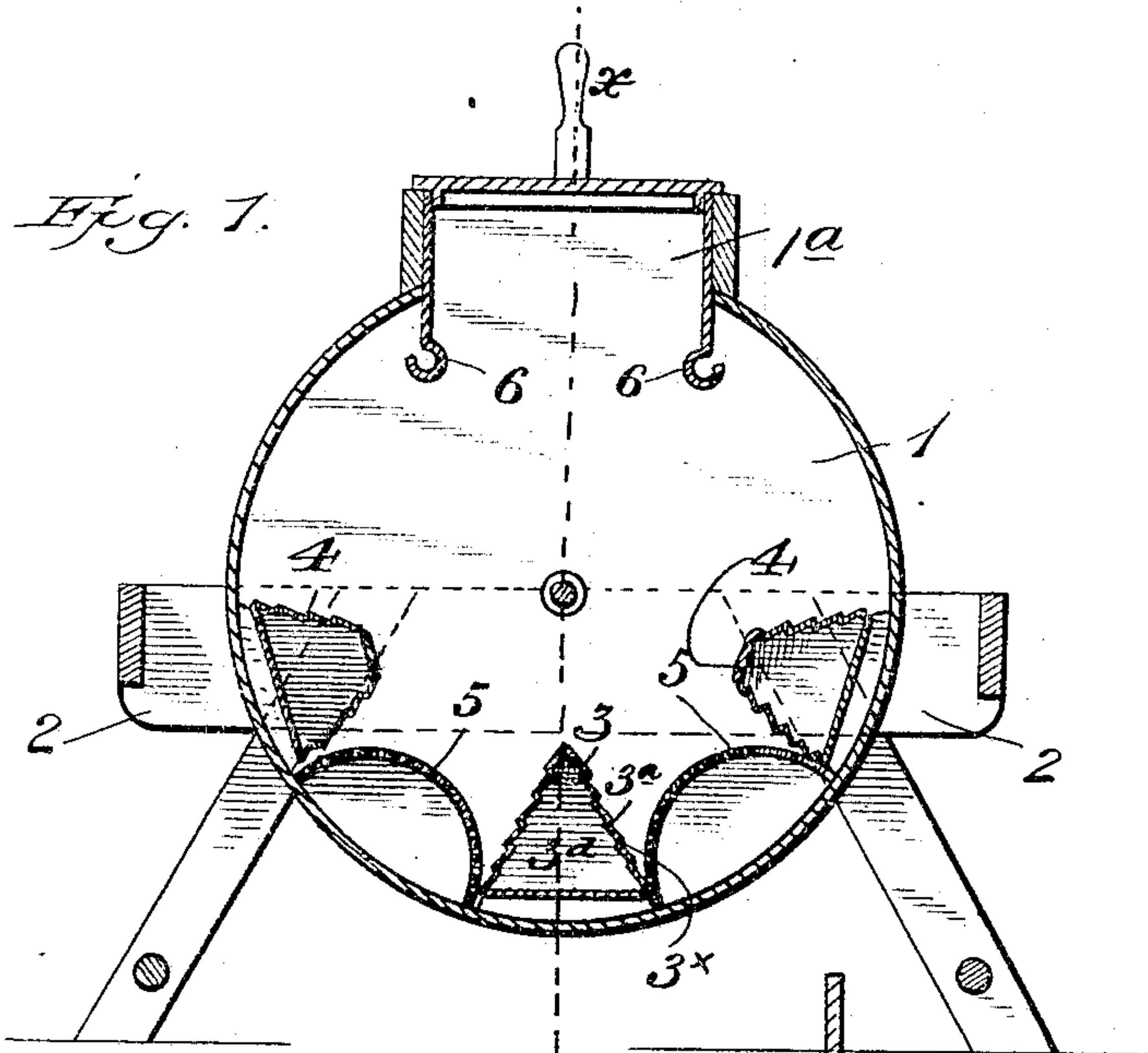


Fig. 2.

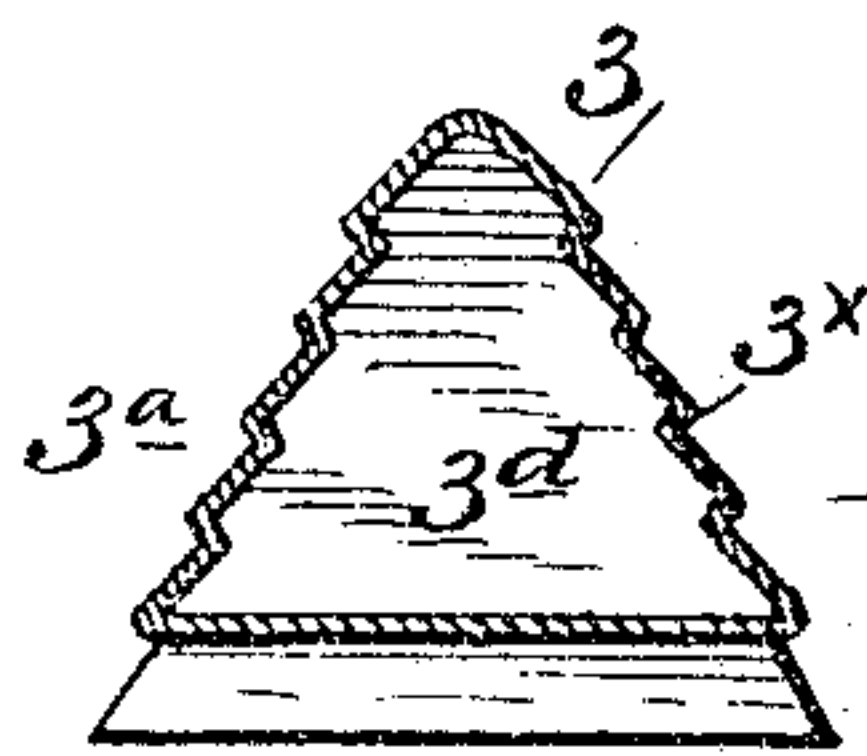
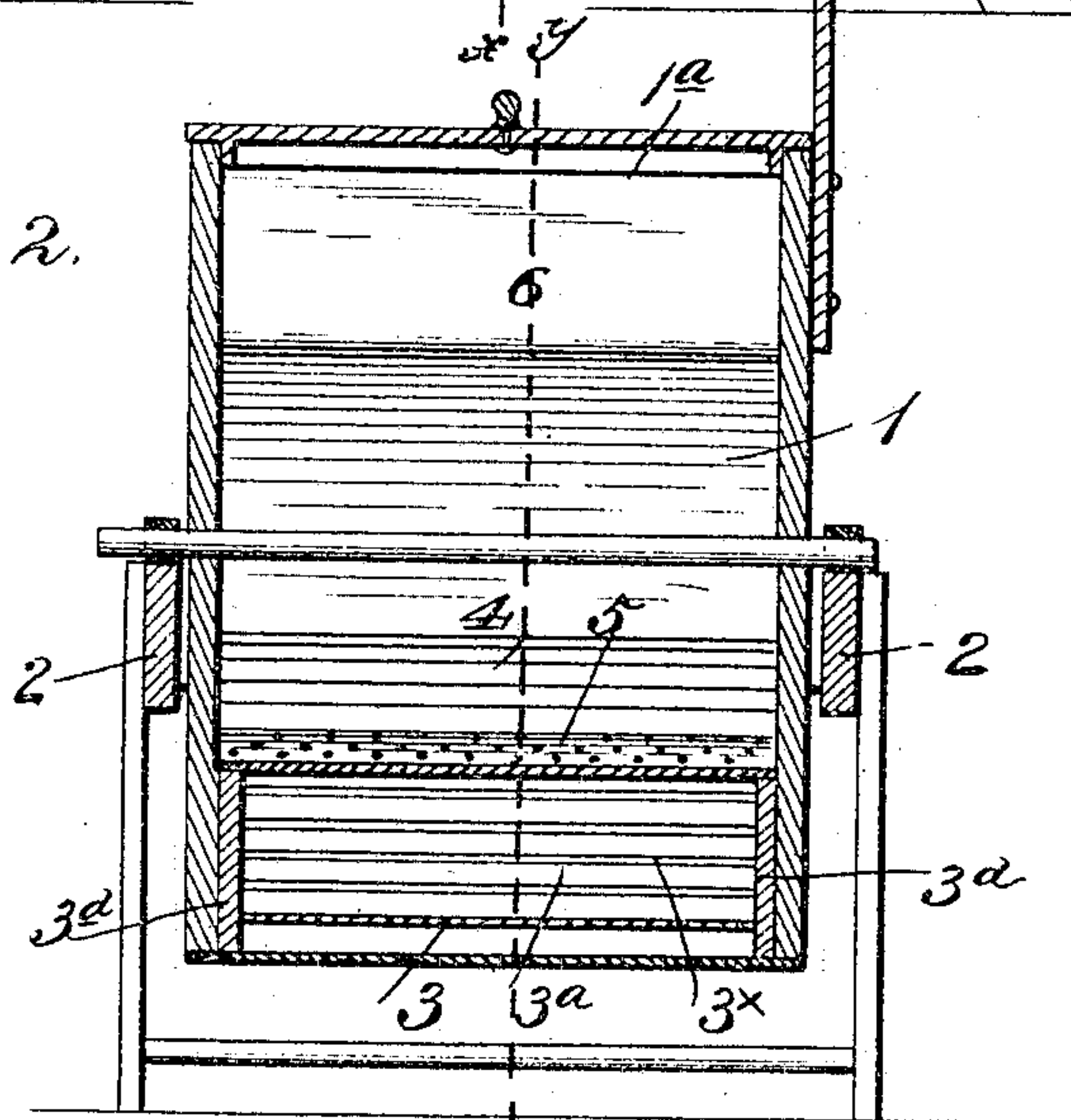
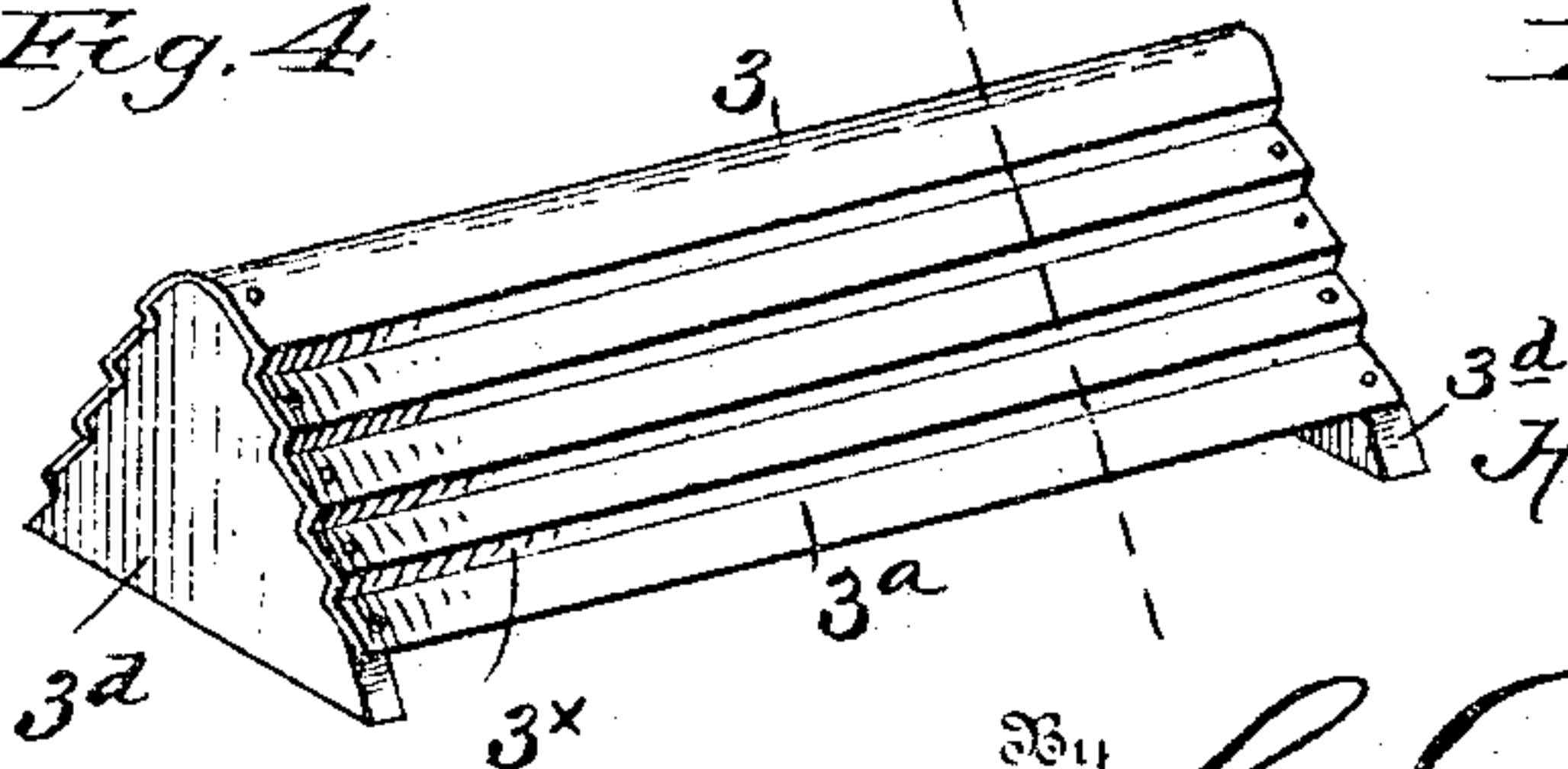


Fig. 3.



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UNITED STATES PATENT OFFICE.

HENRY A. BIERLEY, OF PORTSMOUTH, OHIO.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 766,097, dated July 26, 1904.

Application filed March 7, 1904. Serial No. 197,053. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. BIERLEY, a citizen of the United States, residing at Portsmouth, in the county of Scioto and State of Ohio, have invented new and useful Improvements in Washing-Machines, of which the following is a specification.

My invention relates to improvements in washing-machines.

Said invention has for its object to provide for the ready and effective washing or cleansing of the fabrics or articles in the minimum time and expenditure of labor, while it is characterized by simplicity of construction and cheapness of manufacture.

The nature of the said invention consists of certain structural features and combination and arrangement of parts, substantially as hereinafter more fully disclosed, and particularly pointed out by the claims.

In the accompanying drawings, illustrating the preferred embodiment of my invention, Figure 1 is a vertical transverse section produced on the line *x x* of Fig. 2. Fig. 2 is a longitudinal section taken on the line *y y* of Fig. 1. Fig. 3 is a perspective view of the main rubber, and Fig. 4 is a transverse section thereof.

In the carrying out of my invention I employ, preferably, a receptacle or cylinder 1 to contain the fabrics or articles and the washing water or suds of suitable construction in general outline and mounted for suitable actuation in any usual or approved way, as in effecting the washing or cleansing operation upon or within an open outer receptacle or support 2, preferably of the construction shown. A main rubber or agitator 3, arranged within said cylinder about in the vertical center thereof and having a fixed relation and consequently moving with said cylinder when actuated, consists of a light metal or zinc member 3^a, preferably longitudinally corrugated or ribbed, as at 3^x, and of approximately pyramidal or conical outline and suitably secured to vertical or right-lined end members 3^d, secured to the ends or heads of said cylinder. Said metal or pyramidal member is of less cross-section than the height of said end members and with the latter constitutes a complete closure, being therefore closed at the bottom as well as

throughout its other portions and having said bottom removed or distant from the opposite surface of said cylinder, thus, while providing a passage therebetween and the latter for the continuous circulation of the water in said cylinder, forming a hollow water-tight chamber or compartment. Said compartment or rubber 3 is thus preserved interiorly intact from the water or from being filled therewith, consequently lessening or reducing the effort which would otherwise be required to actuate or rock the cylinder, as is obvious, as in effecting the cleansing or washing operation. Also it will be noted that by means of the extended rubbing-surface thus provided the fabrics are subjected to a double rubbing action—*i. e.*, alternately by the opposite or both sides of the rubber as the latter is actuated while the fabrics are turned over and over up and down said rubber, thus effectively operating thereon for their cleansing. Said cylinder has also arranged or secured therein around its inner circumference intermediately of said rubber or agitator and the entrance 1^a to said cylinder additional but smaller rubbers or agitators 4, and, again, intermediately of said first-referred-to rubber and the next smaller rubbers and intermediately of the successive smaller rubbers themselves are arranged or secured to said circumference convexed foraminous water-spraying devices or chambers 5, said smaller rubbers supplementing the turning and rubbing action of the main central rubber and said spraying devices further aiding the cleansing operation by delivering the water upon the fabrics in the form of spray or streams, as will be appreciated. Laterally of the entrance or opening 1^a in said cylinder are secured inward-extending right-lined deflectors or guards 6 to intercept and prevent the splashing out through said opening of the agitated water, as when actuating the cylinder to effect the clothes-washing operation.

Latitude is allowed as to details herein, as they may be changed as circumstances suggest without departing from the spirit of my invention and the latter still be protected.

I claim—

1. In a washing-machine, a main rubber consisting of a metallic member of approximately

pyramidal or conical outline and having longitudinally-corrugated rubbing-surfaces and end or right-lined members secured to the heads of the fabric-cylinder, said metallic
5 member having its bottom arranged distantly from the opposite surfaces of said cylinder, said rubber being hollow and water-tight and movable with said cylinder.

10 2. A washing-machine, comprising a cylinder having arranged therein a relatively central main rubber of pyramidal or conical outline and having longitudinal corrugated rubbing-surfaces, smaller similar rubbers ar-

ranged intermediately of the aforesaid rubber and the entrance-opening of said cylinder, and foraminous water-spraying devices
15 arranged intermediately of said main rubber and the next or adjacent smaller rubber also between said latter rubbers themselves.

In testimony whereof I have signed my name
20 to this specification in the presence of two subscribing witnesses.

HENRY A. BIERLEY.

Witnesses:

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