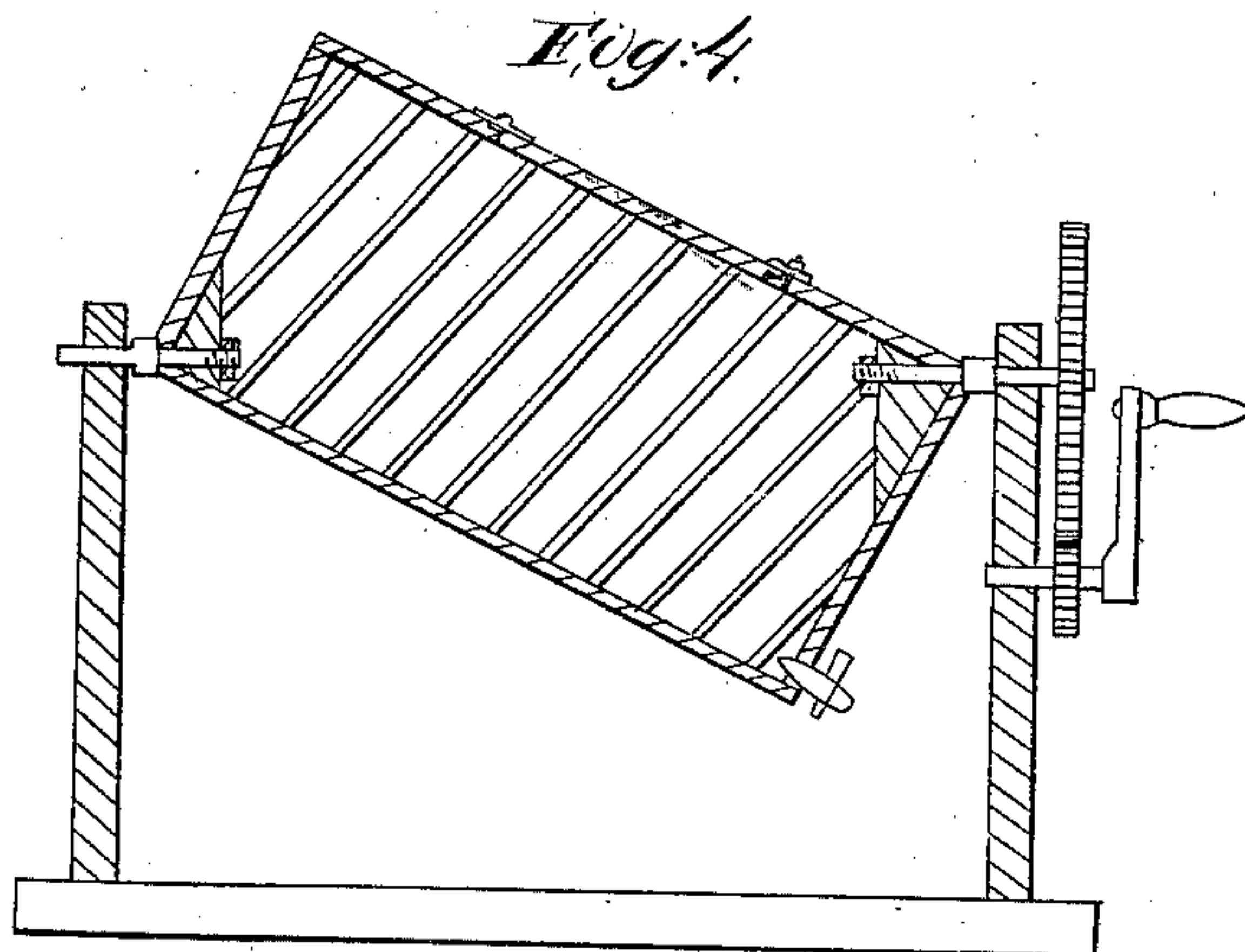
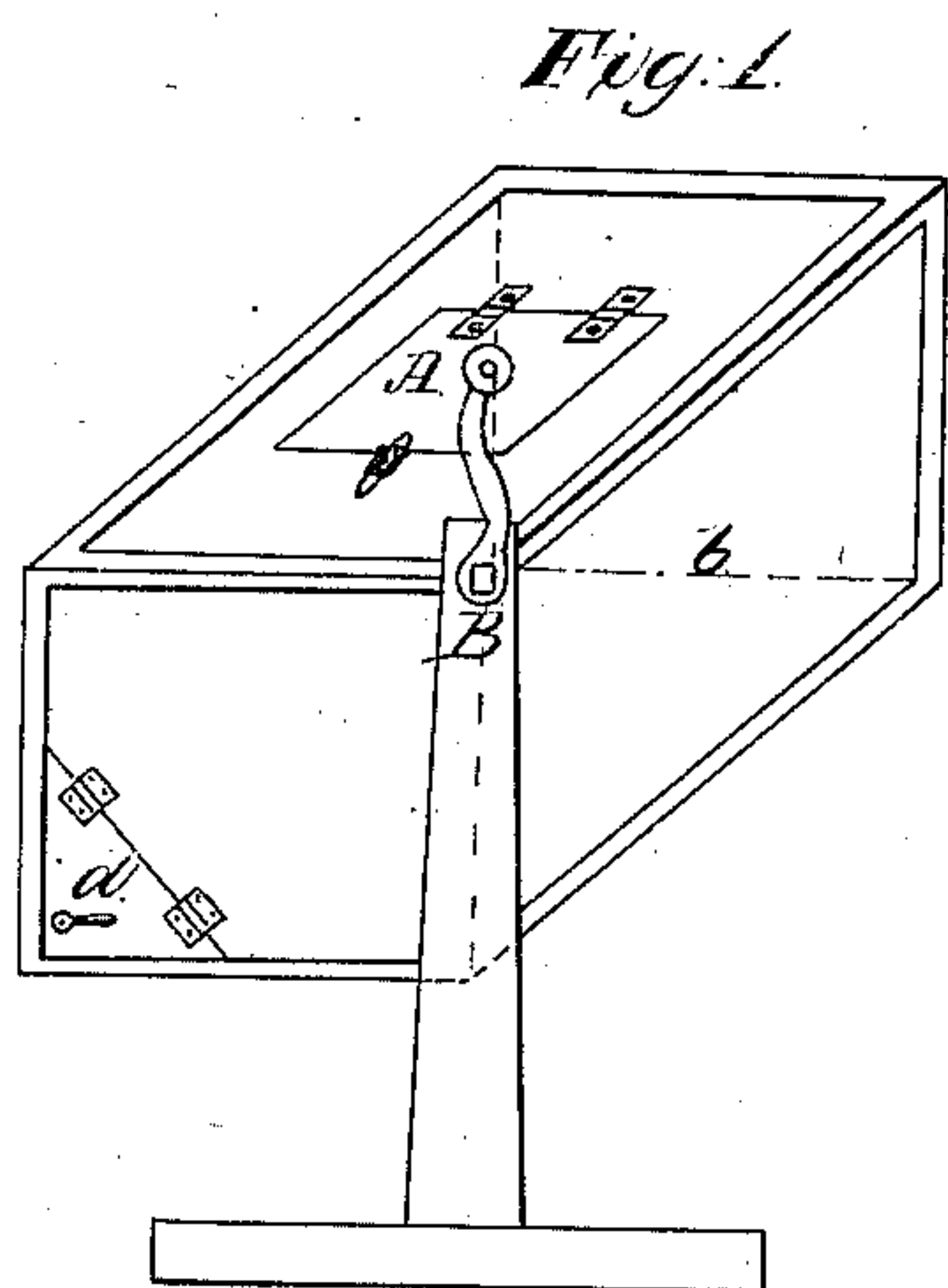
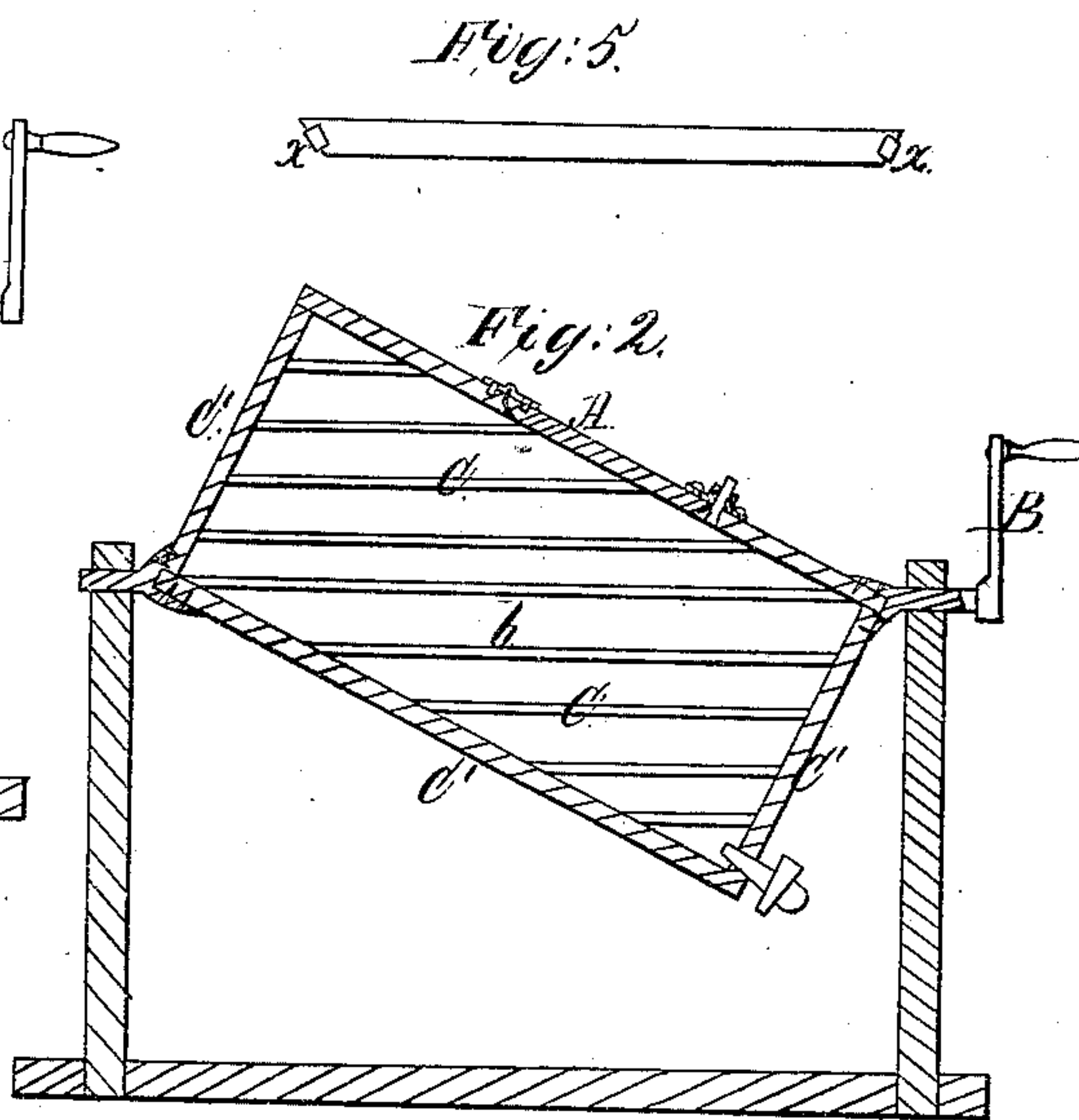
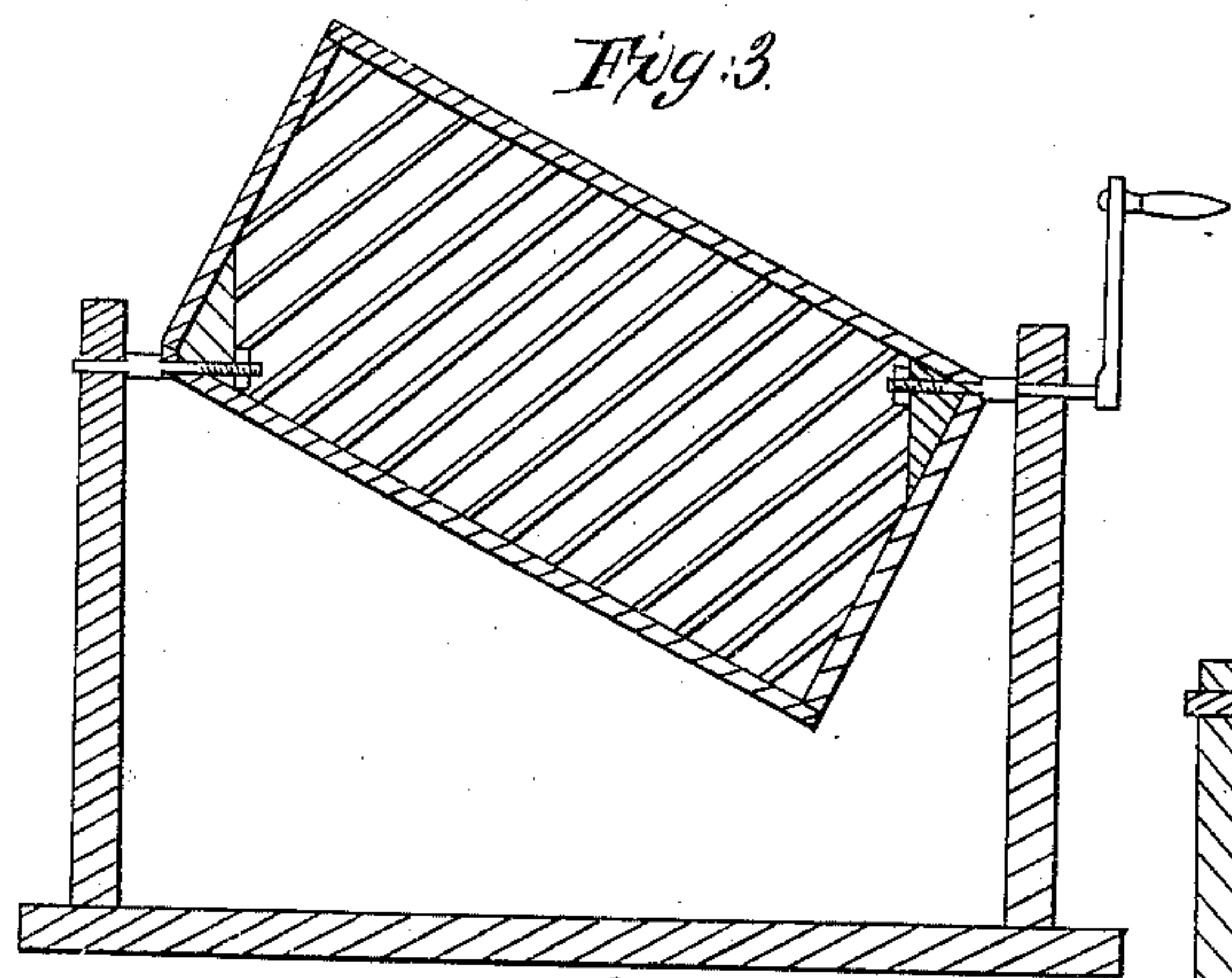


W. Kyle,
Washing Machine,

No. 41,708,

Patented Feb. 23, 1864.



Witnesses:
J. A. Harbrough
G. F. Case

Inventor:
Wm. Kyle

UNITED STATES PATENT OFFICE.

WILLIAM KYLE, OF NEW YORK, N. Y.

IMPROVED WASHING-MACHINE.

Specification forming part of Letters Patent No. 41,708, dated February 23, 1864.

To all whom it may concern:

Be it known that I, WILLIAM KYLE, of the city and State of New York, have invented a new and useful Machine for Washing Clothes and Partially Drying the Same.

The following specification embraces a full description of my said invention, reference being had to the accompanying drawings, in which—

Figure 1 represents an isometric perspective view of my machine complete as it would appear as applied to washing clothes.

The main feature of my invention consists in mounting an angular box or case upon horizontal trunnions at each end of the same and in line with each other, so that it may be made to revolve readily, the axial line of such trunnions being diagonal or eccentric to the longitudinal axis of the box or case. The action upon any body confined in such case when it is being rotated will be more readily understood than it could be described without prolixity.

A, Fig. 1, is a trap-door for putting in or taking out clothes. It should be filled, say, to about one-third of its contents with water and a proper quantity of soap added, and then a quantity of clothes may be put in till one-half or more of the case is filled. Nothing further is required but to turn the machine by the crank B for, say, five minutes, then draw off the dirty water by the faucet provided, (not shown in Fig. 1, but shown in Fig. 2, which is a longitudinal section,) and rinsing-water is to be put in and the machine again operated for a few minutes.

The sides of the machine *b b* (and, if desired, the ends) are made removable and like panels, while the bars *c c* are fixed to and with the main frame *c' c'*.

Fig. 3 shows the machine in longitudinal section with the sides or panels removed.

Now, the bars *c*, when clothes are being washed or rinsed, (the panels *b* then being in place,) act not only as rubbers, but prevent the clothes from sliding down in mass as each portion of the machine descends to a lower level, so that the clothes during each revolution of the machine are carried up a certain distance several times and fall or tumble down with a splash, whereby the water is forced in sudden minute jets, as it were, through their texture. After rinsing and the panels *b* being removed, the same action of the machine will

force jets of air through the fabric as water was before, and dispel the water or the most of it held by absorption in the clothes and leave them ready to be put upon the line for a quick and final drying. Thus the machine performs the duty of a "wringer."

Fig. 4 shows a longitudinal section of my machine with cog-gearing for its rotation, the purpose of which will be plain.

In lieu of a simple open frame, my machine may be supported in a water-tight tank with an open top.

The panels *b* will be provided (see a cross-section of one, Fig. 5) with strips *x x* of packing material—such as india-rubber—let into their edges in a dovetailed groove and properly fastened, so that they will form a water-tight junction with their seats in the main frame. Of course, pinching-buckets or other fastenings must be applied to hold the panels in place as wanted.

I have purposely shown the bars *c* in Figs. 2, 3, and 4 at different angles, inasmuch as they may be variously modified in this respect without changing the substantial nature of my device.

I have shown in Figs. 2, 3, and 4 the axles affixed to diagonally-opposite angles of the case of my machine, but in the same vertical plane as its axis; but I still further prefer to affix the axles to diagonally-opposite corners of the case, so that the line of the axles shall be diagonal to such aforesaid vertical plane also, as I have shown in Fig. 1.

I have anticipated that I could advantageously make my machine of metal—such as sheet-zinc or galvanized sheet-iron—and also that it might be advantageously used for other purposes than washing and drying clothes, where the action upon inclosed bodies of attrition, concussion, and "rolling," simultaneously combined, or nearly so, was or would be useful.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

The relative arrangement of the axles and body or case, and combining the "bars," as described, the whole operating in the manner and for the purposes set forth.

WILLIAM KYLE.

Witnesses:

J. A. H. HASBROUK,
G. F. CASE.