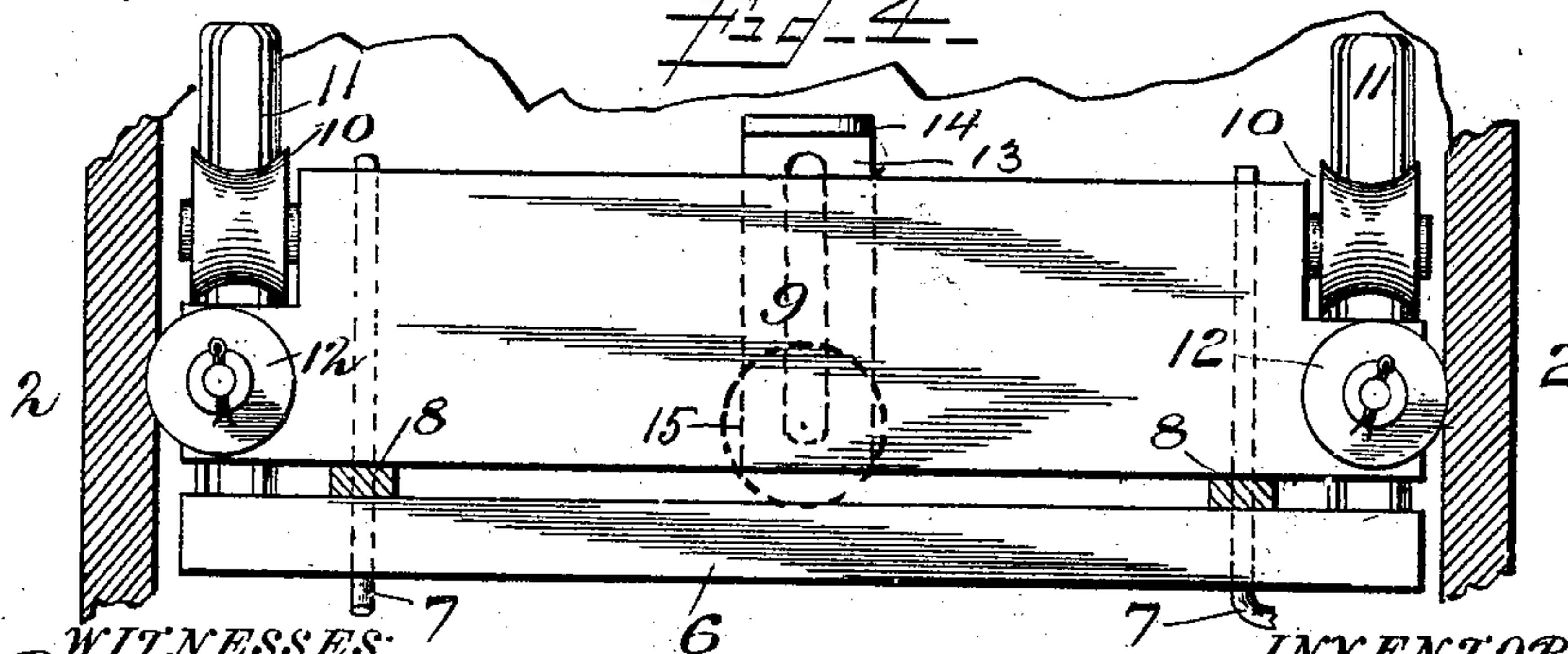
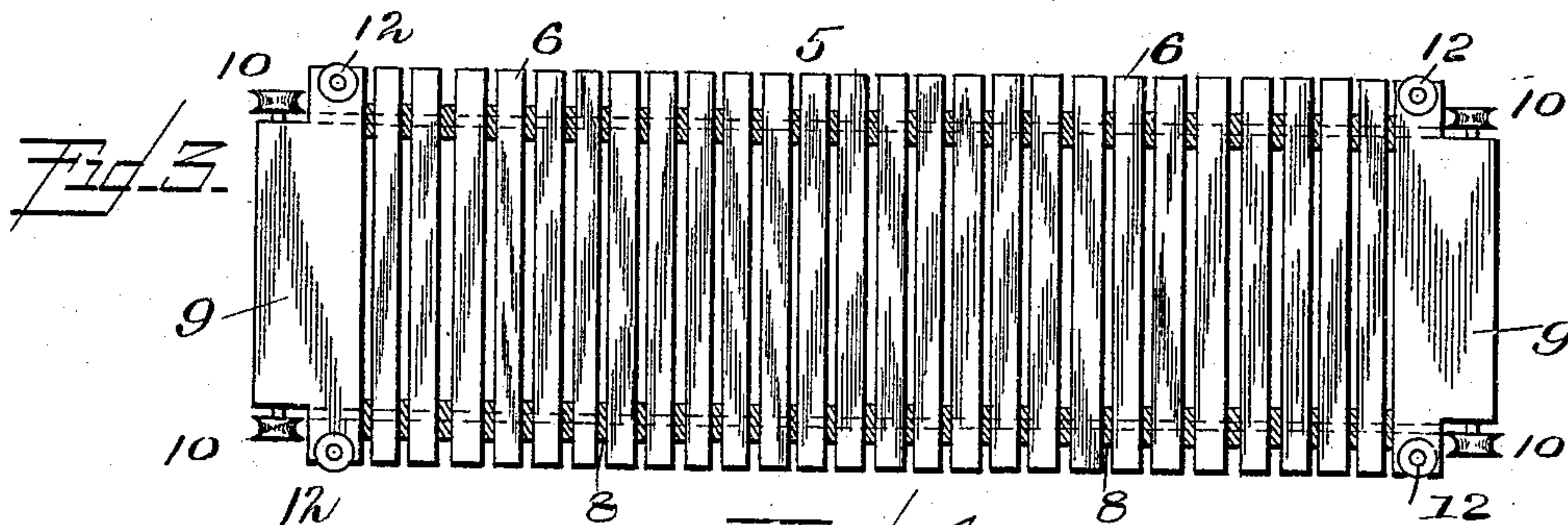
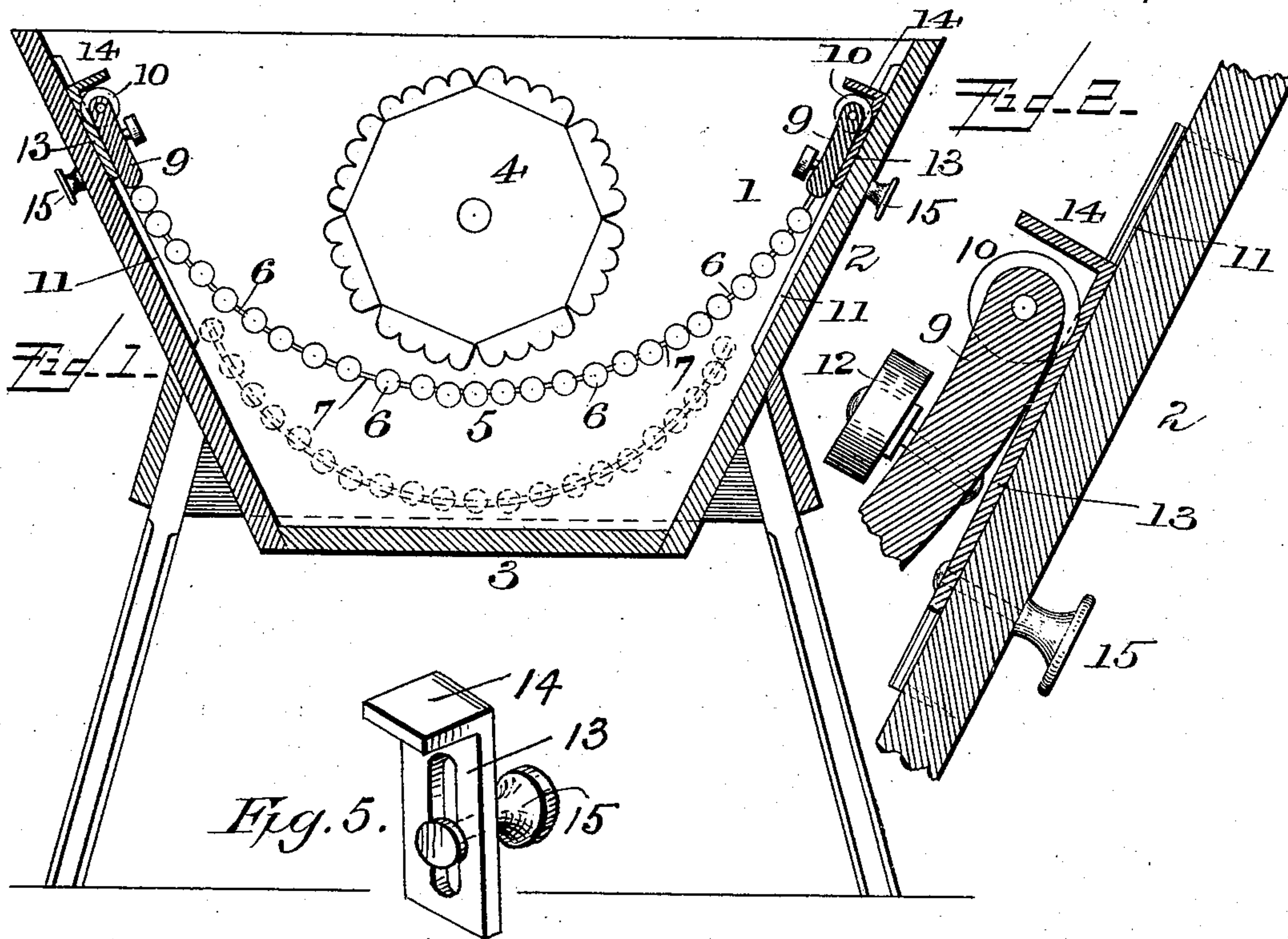


(No Model.)

M. J. RALSTON.
WASHING MACHINE.

No. 506,544.

Patented Oct. 10, 1893.



WITNESSES:
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UNITED STATES PATENT OFFICE.

MATTHEW J. RALSTON, OF MERIDEN, KANSAS, ASSIGNOR OF TWO-THIRDS
TO RICHARD M. RALSTON AND GEORGE W. PRIEST, OF SAME PLACE.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 506,514, dated October 10, 1893.

Application filed January 24, 1893. Serial No. 459,584. (No model.)

To all whom it may concern:

Be it known that I, MATTHEW J. RALSTON, a citizen of the United States, and a resident of Meriden, in the county of Jefferson and State of Kansas, have invented certain new and useful Improvements in Washing-Machines; 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 art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a longitudinal sectional view on a vertical plane through the middle of my improved washing machine. Fig. 2 is a sectional detail view, on an enlarged scale, through one end of the machine, showing more clearly the self-adjustable rubber-carriage and its appurtenances. Fig. 3 is a plan or top view of the automatically adjustable rubber, or rubbing-board. Fig. 4 is a detail front or face view of one of the carriages between two of which the adjustable rubber is supported. Fig. 5 is a detail perspective view of the adjustable slotted plate.

Like numerals of reference denote corresponding parts in all the figures.

This invention relates to washing machines of that type in which a revolving rubber operates in conjunction with a corrugated yielding bottom arranged underneath the revolving rubber, so as to subject the batch of clothes in the machine to a thorough rubbing and squeezing process; and my improvement consists in the construction and arrangement, relative to the suds-box and the revolving rubber, of the automatically adjustable stationary rubber, or rubber bottom, as will be hereinafter more fully described and particularly pointed out in the claim.

Referring to the drawings, the numeral 1 designates the body of the washing-machine, or suds-box, which has slanting ends 2, and a flat bottom 3. Mounted transversely within the body 1, upon an axle or journal which takes its bearings in the parallel sides of the machine, is the revolving rubber 4, the body of which may be cylindrical or polygonal, as desired; the example shown in the drawings being an octagon with corrugated faces. Be-

low this revolving rubber is suspended the yielding rubber-board or false bottom 5, which is composed of a series of rods or slats 6, of even length and connected to one another by two elastic steel rods or springs 7, one at each end, the rods 6 being strung upon these rods, so to speak, and separated from one another by the washers 8, thus leaving narrow open spaces between the rods, permitting the water and suds to pass freely through the bottom 5. The ends of the steel rods or springs, 7, which as we have seen, connect and support the round or corrugated slats or rods which make up the false bottom or rubbing-board 5, are fastened, at opposite ends, in a carriage, 9; there being one of these carriages at each end of the machine; but as they are constructed and operate precisely alike,—one being merely a duplication of the other—a description of one will answer for both. Each of these carriages or bed-supports consists simply of a slightly concavo-convex board, 9, slightly shorter than the width of the suds-box. The two upper corners of this board are cut away to make room for grooved rollers 10, one at each corner, which run on rails, 11, fastened, parallel to each other, on the inner sides of the slanting end-pieces 2. Each carriage is provided with another set of rollers, 12, journaled in planes at right angles to the grooved rollers 10, and projecting with their peripheries slightly beyond the sides of the carriage and rubbing-board suspended thereto, as shown in Fig. 4, so as to form rolling or anti-friction bearings against the sides of the machine, permitting the carriage to move easily up and down upon the rails 11.

In order to regulate movement, in an upward direction, of the carriage upon its rails, I employ an adjustable stop or regulating device upon each of the ends 2, the same consisting of a slotted plate 13, the upper end of which is bent at right angles to form a stop, 14, limiting upward motion of the carriage 9 as shown in dotted lines Fig. 4, and in detail Fig. 5. This slotted plate or bracket is placed on the inner side of the slanting end-board midway between the side rails 11, and may be moved up or down, and fastened in its adjusted position, by means of a nutted binding-screw 15. By loosening the milled nut

of this screw, plate 13, with its stop 14, may be moved up or down, and again fastened in its adjusted position by simply tightening the nut,—thus regulating the upward “play” or motion of the carriage with the rubber attached.

From the foregoing description, taken in connection with the drawings, the operation of my improved washing-machine will readily be understood. As the yielding rubber-bottom is free at both ends, where it is supported movably by the end supports or carriages 9 upon their rails, it is free to adjust itself to any position within the suds-box between the position shown in full line and that indicated in dotted lines in Fig. 1. The stiffness of the elastic steel rods 7, which support and connect the rounded slats of the yielding rubber, will cause the latter to normally assume the position shown in full line in Fig. 1; but when a batch of clothes is introduced into the machine to be washed, the bottom 5 will, as these are carried under the revolving rubber, yield and adjust itself so as to allow the clothes to pass through, while at the same time, they are subjected to a com-

bined squeezing and rubbing process between the revolving and the self-adjusting rubbing board. This pressure may be regulated by adjusting end-brackets 13 up or down, thereby regulating the play or motion of the rubber-supporting carriages at opposite ends of the machine.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

In a washing-machine, the combination with the revolving rubber and the suds-box having inclined ends provided with the rails 11 and adjustable brackets 13, of the elastic and automatically adjustable rubber-bottom 5 having end supports or carriages 9 provided with grooved wheels 10, and friction rollers 12; substantially as and for the purpose herein shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

MATTHEW J. RALSTON.

Witnesses:

J. J. REESE,

R. M. RALSTON.