

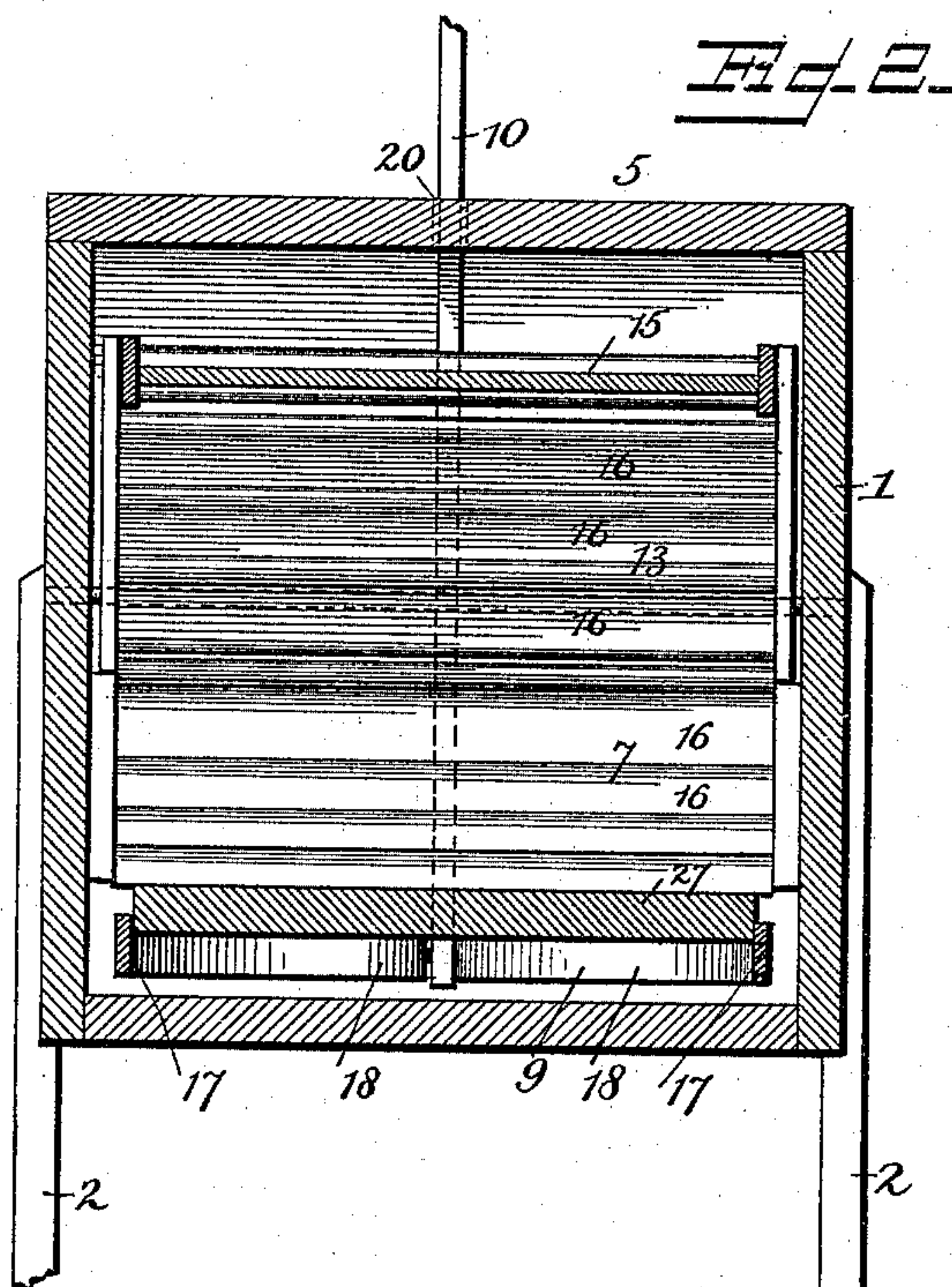
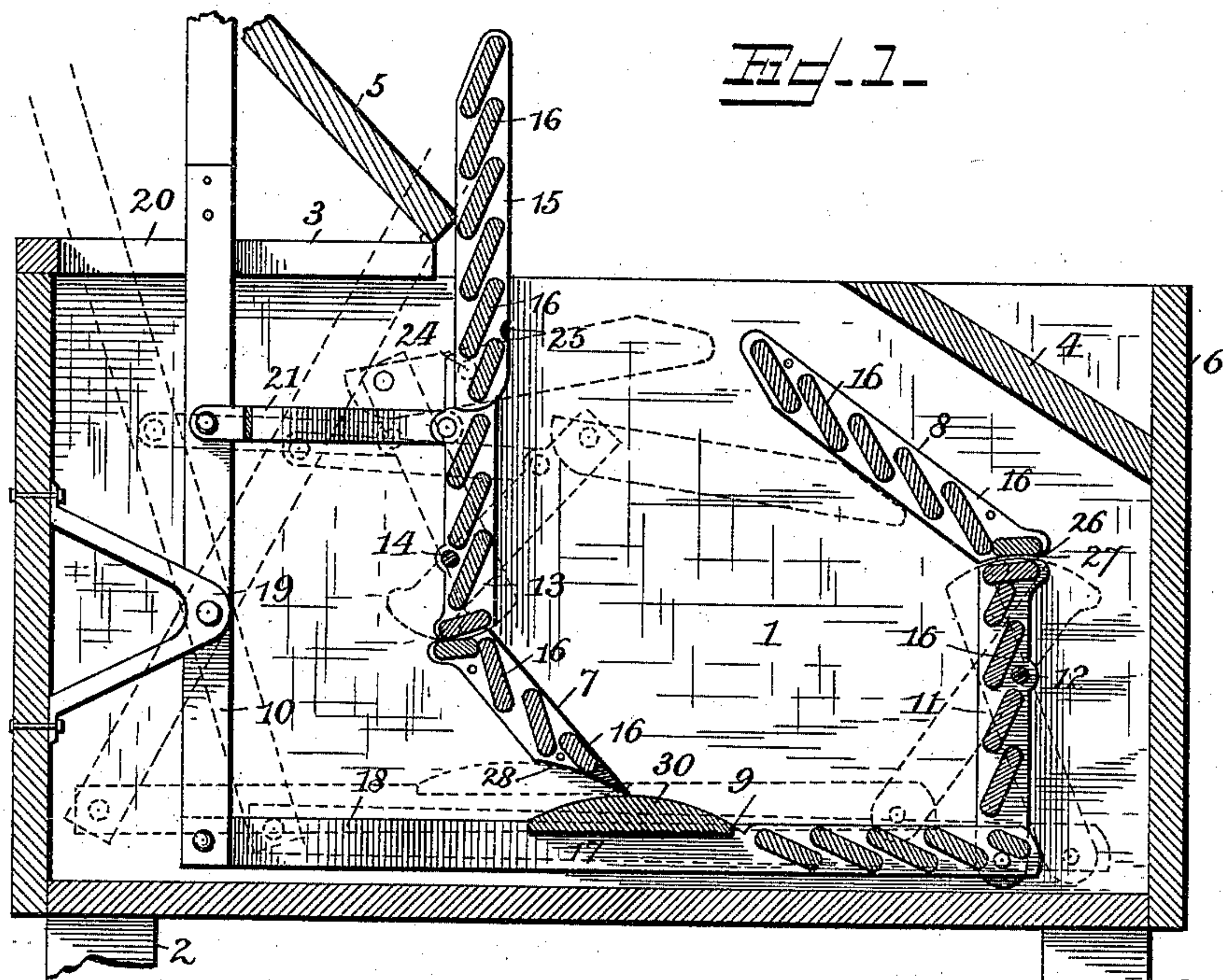
(No Model.)

2 Sheets—Sheet 1.

E. E. RICKERT.
WASHING MACHINE.

No. 547,229.

Patented Oct. 1, 1895.



Inventor

Witnesses

Chas H. Ourand
J. H. Riley

By his Attorneys,

E. E. Rickert

C. A. Snow & Co.

(No. Model.)

2 Sheets—Sheet 2.

E. E. RICKERT.
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Fig. 3.

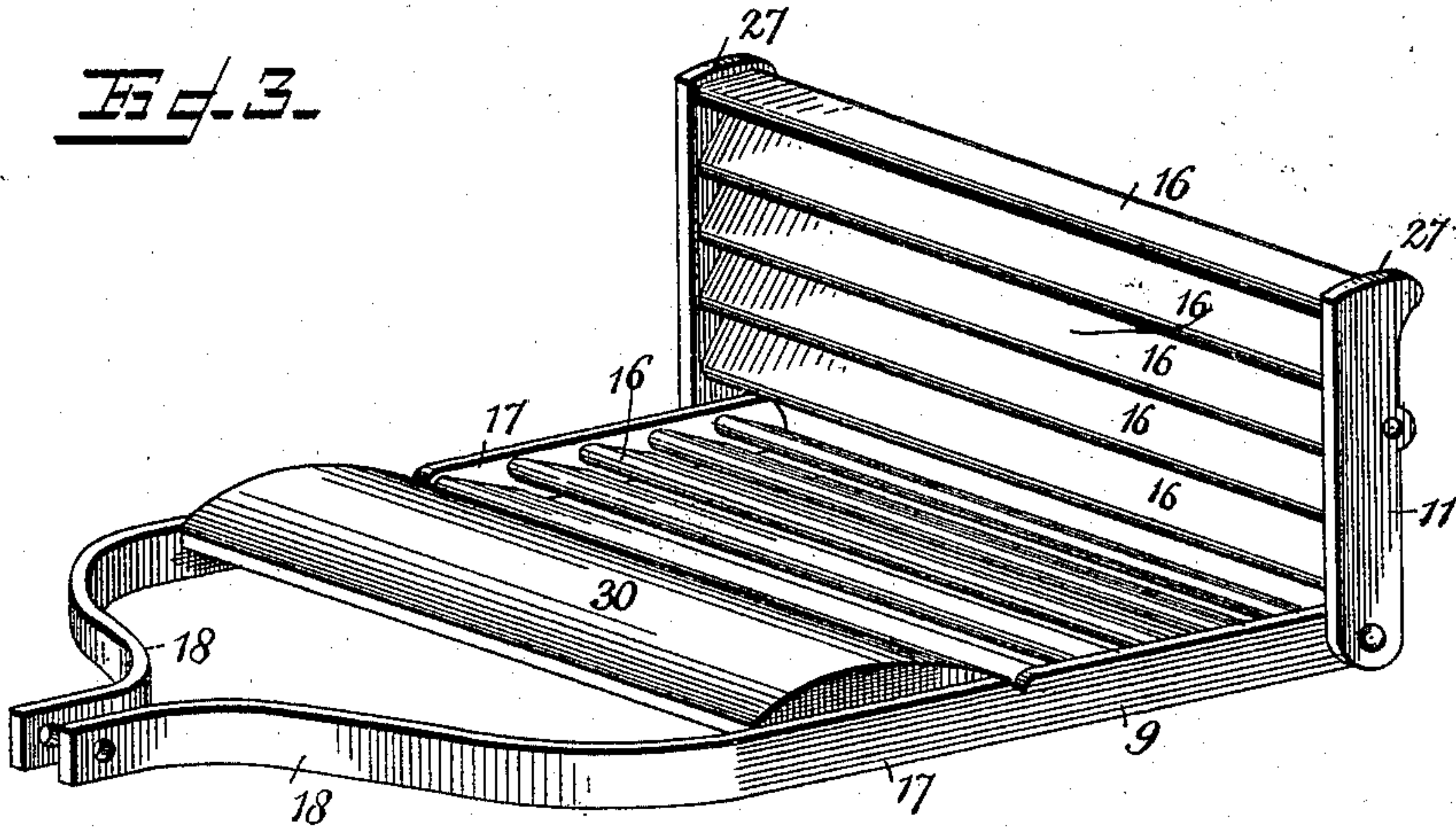


Fig. 4.

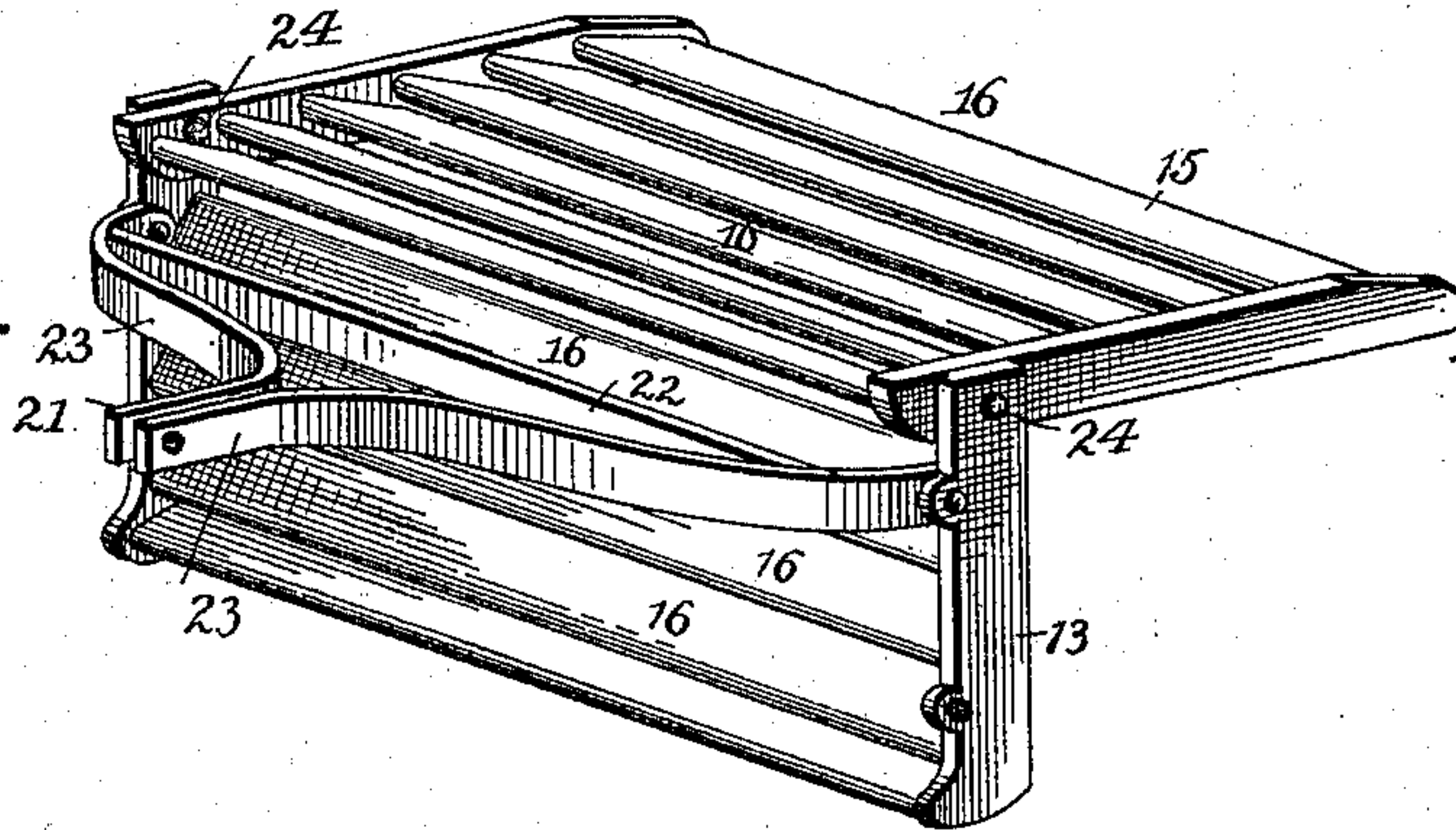


Fig. 5.

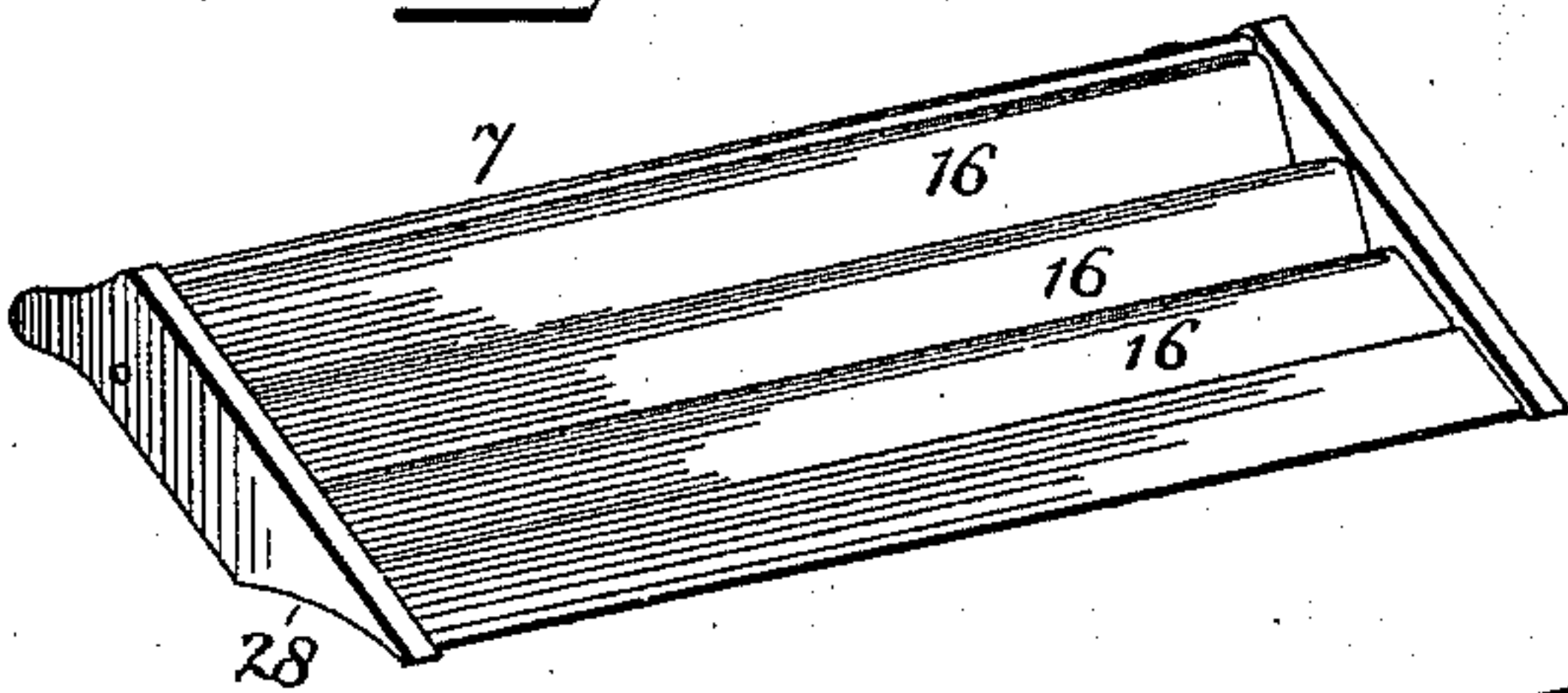
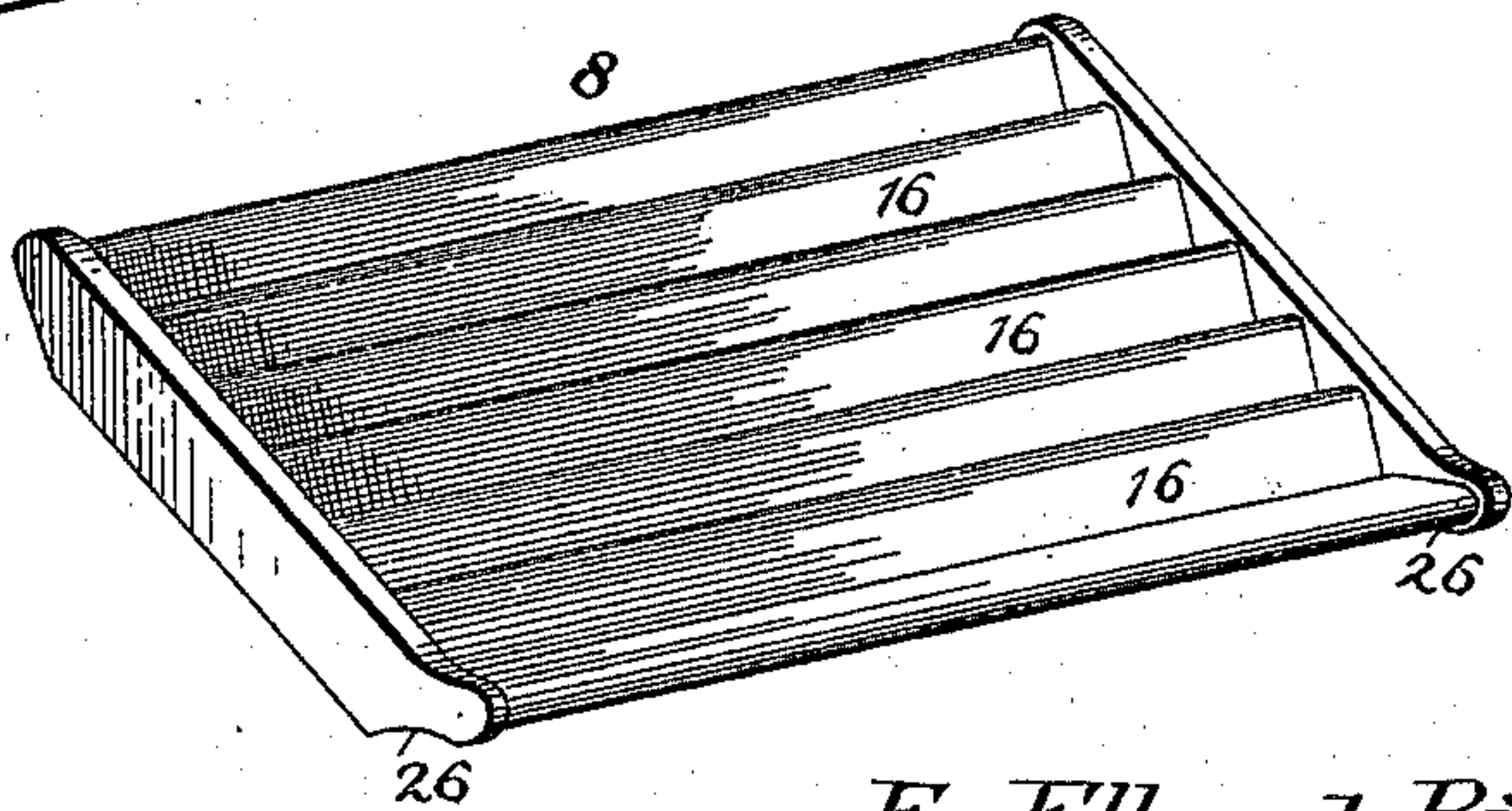


Fig. 6.



Inventor

E. Ellwood Rickert

Witnesses

Chas. H. Durand,
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By his Attorneys.

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

EATON ELLWOOD RICKERT, OF FREELAND, PENNSYLVANIA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 547,229, dated October 1, 1895.

Application filed April 5, 1895. Serial No. 544,661. (No model.)

To all whom it may concern:

Be it known that I, EATON ELLWOOD RICKERT, a citizen of the United States, residing at Freeland, in the county of Luzerne and State of Pennsylvania, have invented a new and useful Washing-Machine, of which the following is a specification.

The invention relates to improvements in washing-machines.

The object of the present invention is to improve the construction of washing-machines, and to provide a simple, inexpensive, and efficient one capable of rapidly and thoroughly removing the dirt and stains from clothes and other fabrics without wearing or otherwise injuring the same, and at the expenditure of a minimum amount of labor.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a central longitudinal sectional view of a washing-machine constructed in accordance with this invention. Fig. 2 is a transverse sectional view of the same. Fig. 3 is a detail perspective view of the bottom reciprocating rubber and the lower oscillating end rubber. Fig. 4 is a detail perspective view of the upper oscillating end rubber and the top hingedly-mounted reciprocating rubber. Figs. 5 and 6 are detail perspective views of the stationary end rubbers.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a rectangular washing-machine body supported by legs 2 and provided at its top with a slotted end section 3, an inclined end section 4, and a cover or lid 5, located between the sections 3 and 4 of the top and hinged to the former and adapted to be opened in the usual manner to afford access to the interior of the washing-machine body. The section 4 inclines downward and outward from the free edge of the lid 5 and exposes the upper portion 6 of the adjacent end of the body, to provide a wringer-supporting board.

Within the body are mounted stationary inclined rubbers 7 and 8, disposed substantially parallel and extending transversely of the washing-machine body and located, respectively, near the top and bottom of the body. The inclined stationary rubber 7 is

located a short distance above the bottom of the washing-machine body to provide a space to permit a bottom movable rubber 9 to reciprocate over the bottom of the washing-machine body.

The reciprocating bottom rubber 9 projects forward beyond the inclined stationary rubber 7 and is pivotally connected to the lower end of an operating-lever 10 and is supported above the bottom of the body 1 by the same. The rear end of the reciprocating lever 9, which is substantially horizontally disposed, is pivotally connected to a lower oscillating end rubber 11, which is disposed opposite the stationary rubber 7 and which is located directly beneath the upper stationary rubber 8. The lower oscillating end rubber 11 is journaled intermediate of its top and bottom between the sides of the washing-machine body, preferably by means of a shaft or rod 12. In this manner the horizontally-disposed reciprocating rubber 9 is adapted to move backward and forward when the operating-lever is oscillated, and it is supported clear of the bottom of the body to avoid friction.

An upper oscillating end rubber 13 is located directly above the stationary rubber 7 and is journaled between the sides of the washing machine body by a transverse rod or shaft 14, located a short distance above the bottom of the rubber 13, and hingedly attached to the upper end of the latter is a reciprocating top rubber 15, which extends across the space between the oscillating rubber 13 and the upper stationary end rubber 8.

The arrangement of the stationary, the oscillating, and the reciprocating rubbers is such that they are adapted to entirely surround a mass of clothes and to exert a rubbing action on the same, and to cause a continuous turning of the clothes or fabrics being washed to present the various articles to the action of the rubbers, in order to render the rubbing action uniform and to make the operation of washing thorough and complete.

Each rubber is provided with parallel-inclined transversely-disposed slats 16, constructed of wood or other suitable material and secured to metal end pieces or sides; but the end pieces or sides may be constructed of wood, if desired.

The sides 17 of the reciprocating bottom rubber are provided with converging extensions 18, having their front terminals slightly

separated to provide a space to receive the lower end of the operating-lever 10, to which they are pivoted. The operating-lever 10 is fulcrumed intermediate of its ends on a bracket 19, secured to the front end of the washing-machine body and projecting horizontally therefrom. This bracket 19 is substantially U-shaped, and it has pivoted at its apex the said operating-lever, which extends upward through the slot 20 of the section 3 of the top of the washing-machine body.

The upper oscillating end rubber is connected with the operating-lever at a point above the bracket by a link-frame 21, which is substantially triangular and which is composed of a transverse bar 22 and curved converging sides 23, having their front terminals pivoted to the operating-lever and arranged at opposite sides thereof. The rear terminals of the sides 23 are pivoted to perforated ears of the metal side pieces of the oscillating rubber 13, whereby the upper movable rubbers 13 and 15 are operated simultaneously with the lower movable rubbers 9 and 11.

The reciprocating top rubber 15 is adapted to be swung upward on its pivots 24 to permit clothes and other fabrics to be placed within the washing-machine in the space encompassed by the rubbers, and the side bars of the hingedly-mounted rubber 15 are provided with notches 25, which are adapted to engage the top slat of the rubber 13 to limit the downward swing of the top rubber 15.

The bottom of the upper inclined rubber 8 is concavely curved at 26 and the top of the lower oscillating rubber is convexly curved, the top 27 oscillating close to the stationary rubber 8 to prevent any clothes or fabrics from getting between those rubbers.

The bottom of the lower stationary end rubber 7 is beveled at 28, and, in order to prevent any space of any material size from being between the reciprocating bottom rubber 9 and the rubber 7, a transverse bar 30 is mounted on the rubber 9 and is provided with a convex upper face. The oscillation of the lower end of the operating-lever and the lower portion of the rubber 11 imparts to the rubber 9 a slight rise and fall, accordingly as the lower end of the operating-lever and the bottom of the rubber 11 swing upward or downward. When the rubber 9 is in its lowest horizontal position, the transverse bar 30 is centrally beneath the lower edge of the rubber 7, and as the rubber 9 moves upward it moves longitudinally likewise and gradually carries the double convex or inclined face of the bar 30 under the lower edge of the rubber 7 to preserve a uniform distance between the lower edge of the rubber 7 and the adjacent portion of the rubber 9 at all times to prevent any clothes from getting between those rubbers and clogging the washing-machine.

When the operating-lever is swung inward, as illustrated in dotted lines in Fig. 1 of the accompanying drawings, the two pairs of pivotally-connected movable rubbers are brought

closer together and operate to squeeze the clothes being washed, and as the operating-lever moves rearward or outward they operate to turn the clothes and bring fresh portions of them in position to be operated on by the rubbers. The top rubber 15 is swung upward above and out of contact with the clothes when the operating-lever is moved outward and abruptly contacts with the clothes when the operating-lever is swung inward, thereby continually striking the clothes and causing them to turn and also exerting a rubbing action on them. In this manner the clothes are rapidly and thoroughly washed and completely subjected to the action of the rubbers.

It will be seen that the washing-machine is simple and comparatively inexpensive in construction, that it is efficient in operation, and that, while thoroughly rubbing the clothes, there is no liability of injuring the fabric.

Changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

What I claim is—

1. In a washing machine, the combination of a washing machine body, the upper and lower transversely disposed stationary rubbers 7 and 8, arranged at an inclination and being substantially parallel, the upper and lower oscillating end rubbers 13 and 11 located respectively above the rubber 7 and below the rubber 8, a reciprocating bottom rubber hingedly connected to the lower end of the oscillating rubber 11, a top rubber hingedly connected to the upper oscillating rubber and extending therefrom to the upper stationary rubber, and means for simultaneously operating the movable rubbers, substantially as described.

2. In a washing machine, the combination of a washing machine body, the upper and lower transversely disposed stationary rubbers 7 and 8 arranged at an inclination, the upper and lower oscillating rubbers 11 and 13 located respectively above the rubber 7 and below the rubber 8, a reciprocating bottom rubber hingedly connected with the lower oscillating rubber, a top rubber carried by the upper oscillating rubber, and the transverse bar 30 mounted on the reciprocating bottom rubber and located beneath the lower edge of the rubber 7 and having a convex upper face, to preserve a uniform distance between the rubber 7 and the reciprocating bottom rubber to exclude clothes from the space between those rubbers to prevent clogging, substantially as described.

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

EATON ELLWOOD RICKERT.

Witnesses:

O. RICKERT,
S. SMITH.