

No. 621,174.

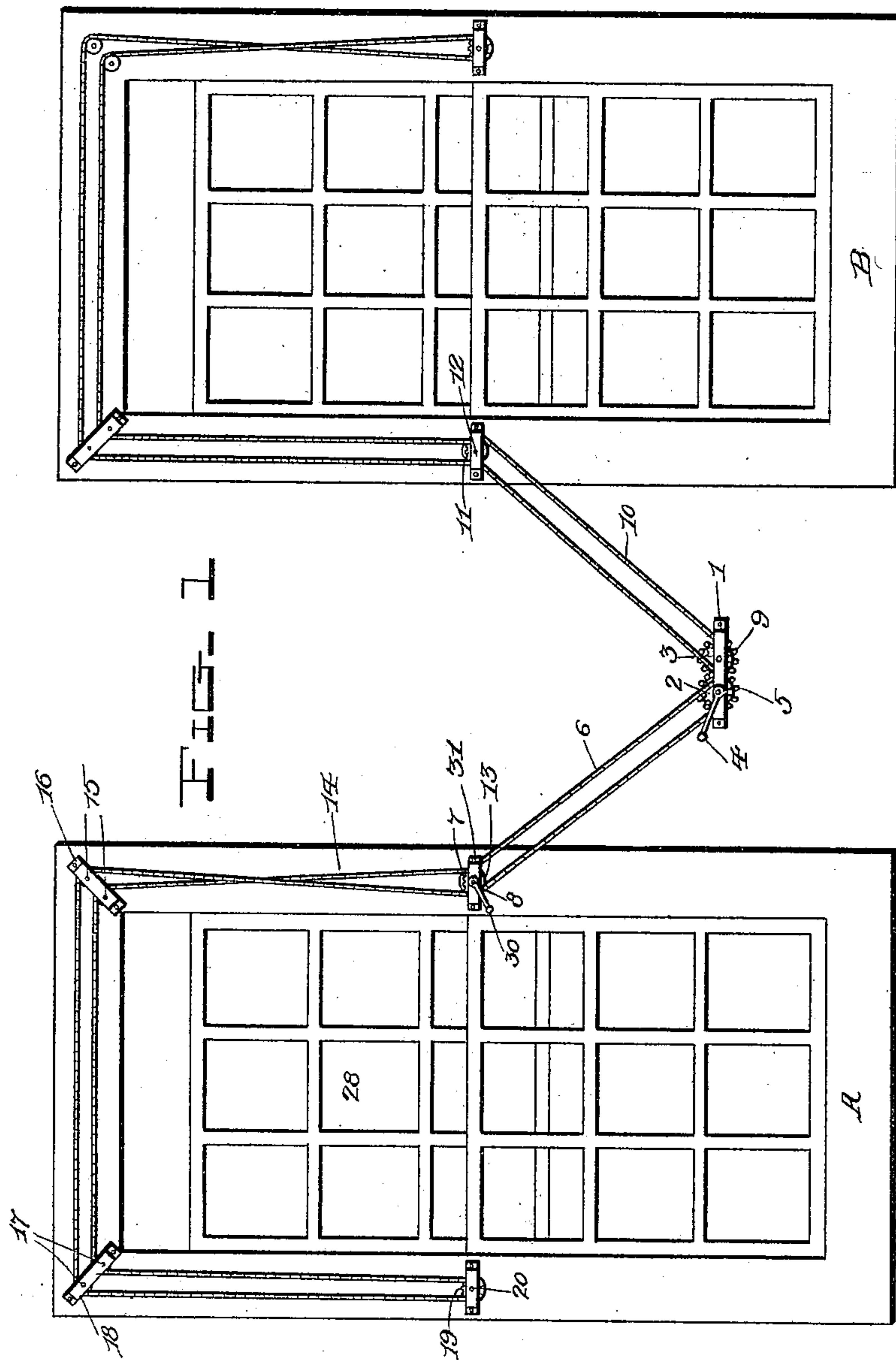
Patented Mar. 14, 1899.

C. H. STRAUSS.
WINDOW SASH WORKER.

(Application filed Oct. 27, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
Thomas C. Jenkins.
[Signature]

Inventor
Charles H. Strauss,
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Attorneys

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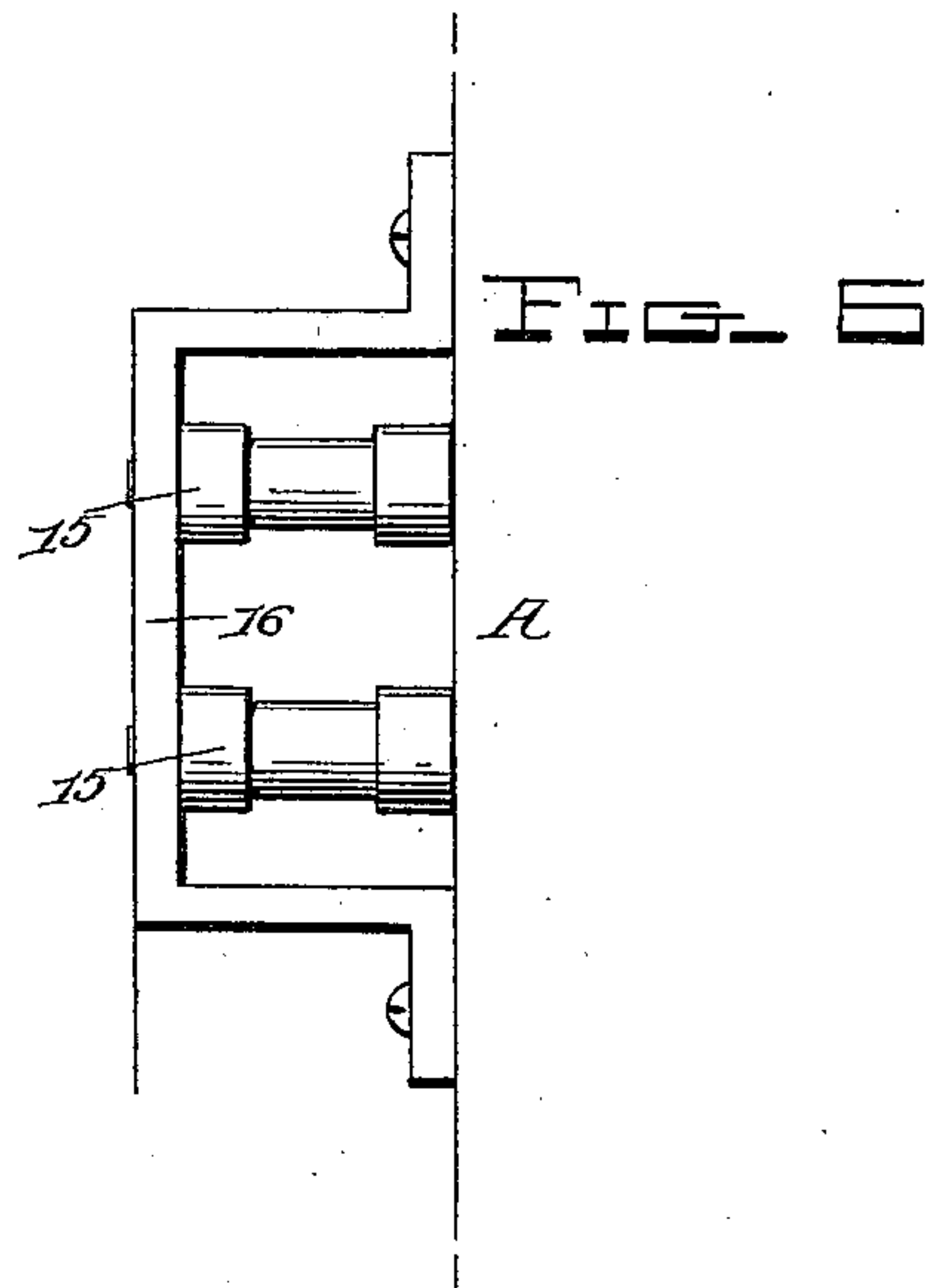
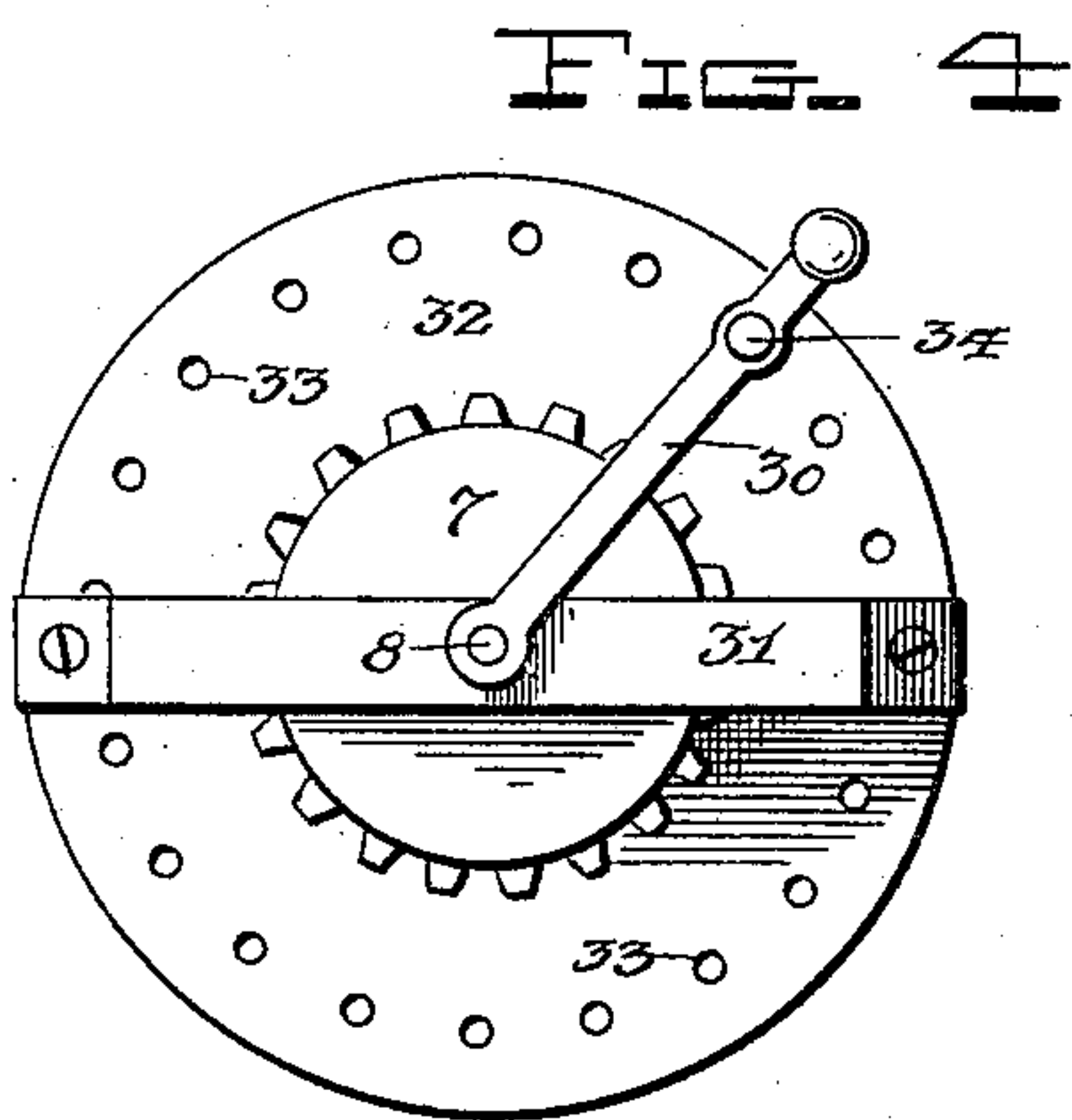
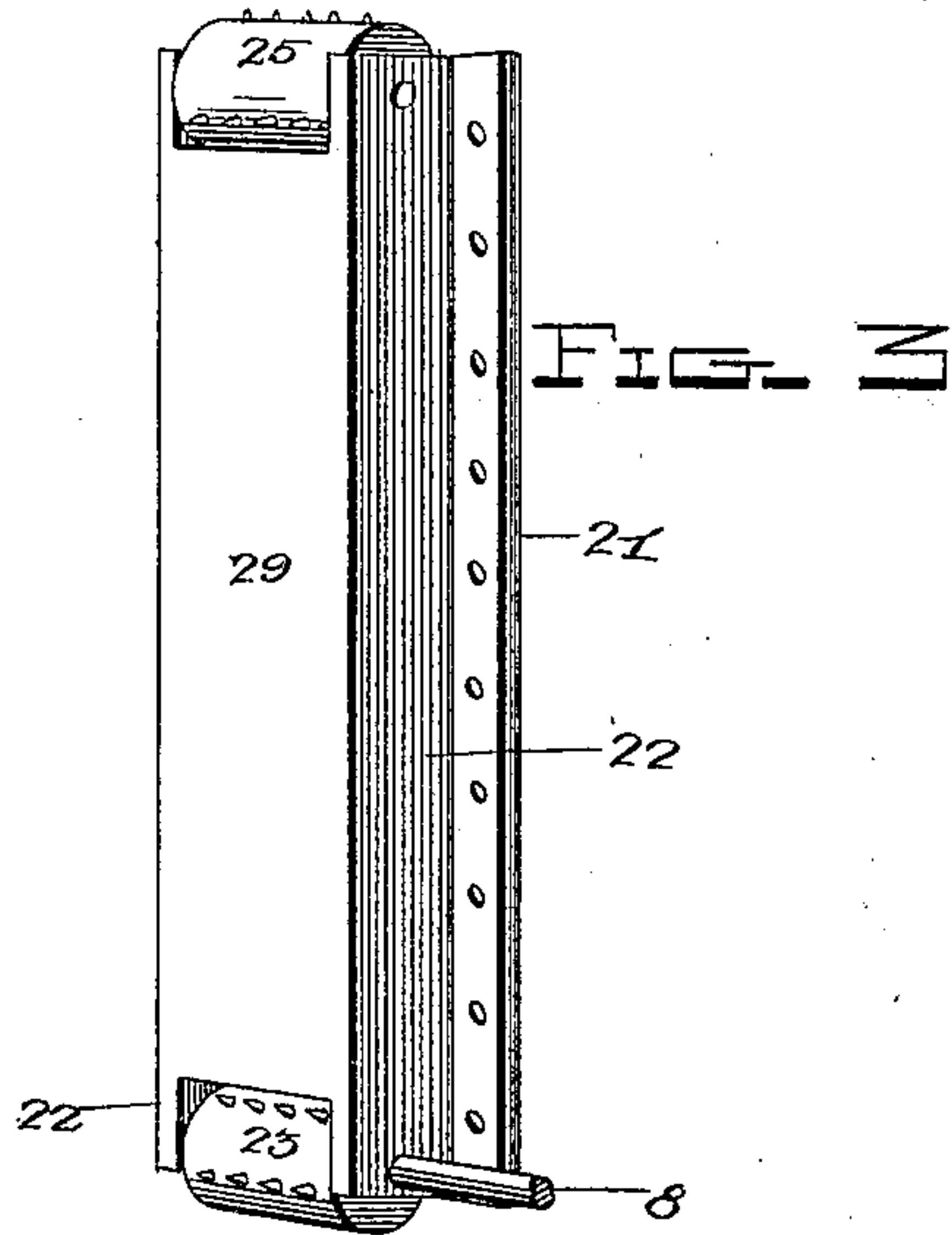
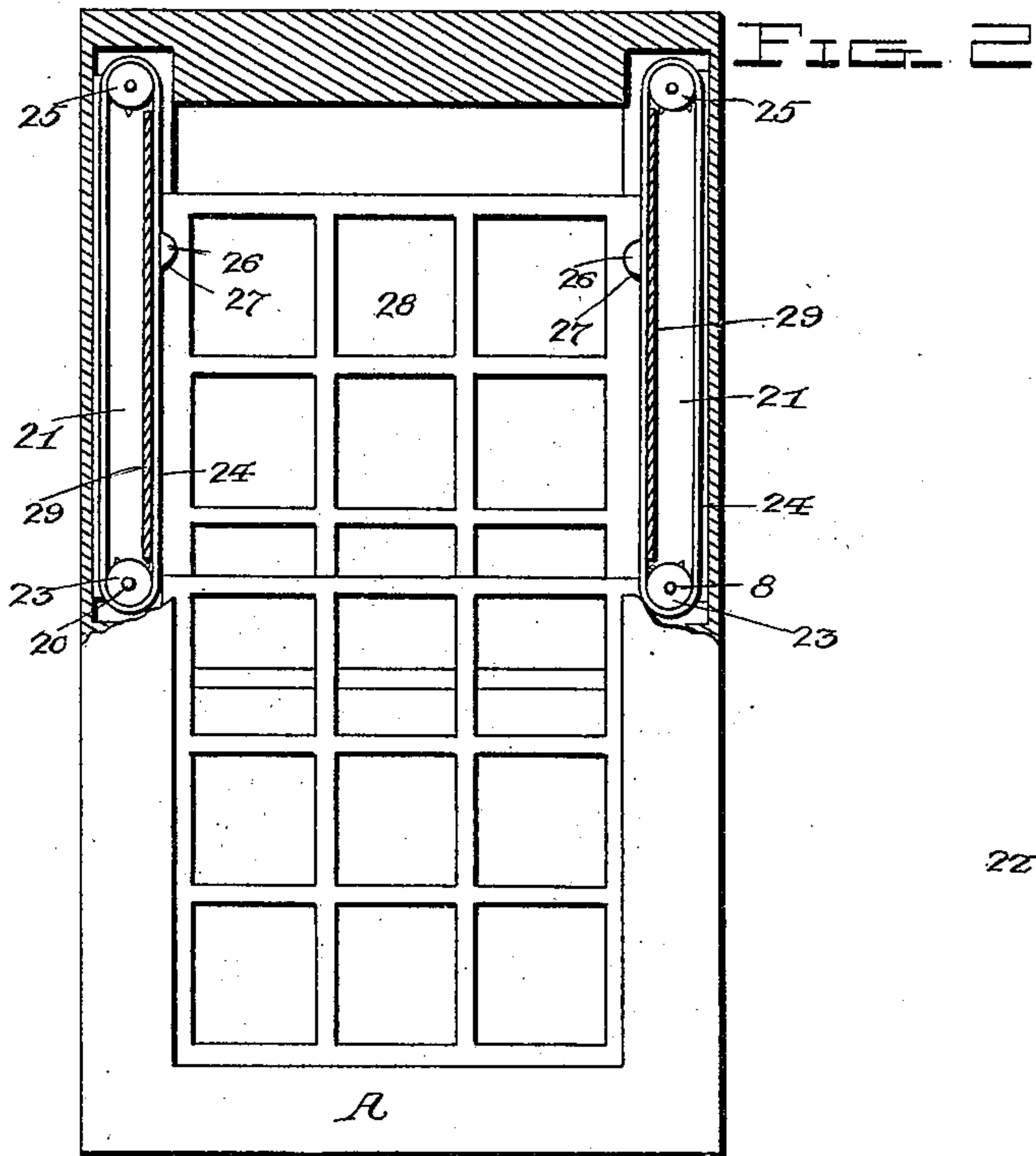
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2 Sheets—Sheet 2.



Witnesses

Thomas Lloyd Johnson
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by

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UNITED STATES PATENT OFFICE.

CHARLES H. STRAUSS, OF PORT GAMBLE, WASHINGTON, ASSIGNOR OF
ONE-HALF TO CHARLES ANDERSON, OF SAME PLACE.

WINDOW-SASH WORKER.

SPECIFICATION forming part of Letters Patent No. 621,174, dated March 14, 1899.

Application filed October 27, 1898. Serial No. 694,719. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. STRAUSS, a citizen of the United States, residing at Port Gamble, in the county of Kitsap and State of Washington, have invented certain new and useful Improvements in Window-Sash Workers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in sash-workers; and the object is to provide a simple, convenient, and effective device for raising and lowering the vertical window-sashes in dwellings, stores, theaters, churches, and the like.

To this end the invention consists in the construction, combination, and arrangement of the several parts of the device, as will be hereinafter more fully described, and particularly pointed out in the claims.

The accompanying drawings show my invention in the best form now known to me; but many changes in the details might be made within the skill of a good mechanic without departing from the spirit of my invention as set forth in the claims at the end of this specification.

The same reference characters indicate the same parts of the invention in the several views.

Figure 1 is a front elevation of my improved sash-working device as applied to two windows to raise or lower the upper sashes. Fig. 2 is a vertical longitudinal section through one of the window-frames. Fig. 3 is an enlarged detail perspective view of one traveling-belt bracket. Fig. 4 is a detail view of one of the crank-shafts. Fig. 5 is a similar view of one of the guide-pulley brackets.

The construction and arrangement of each of the windows A and B are practically the same.

1 denotes a bracket in which are journaled the intermeshing gear-wheels 2 and 3, one of which is provided with an operative crank-handle 4. The gear 2 is provided with a sprocket-wheel 5, from which an endless sprocket-chain 6 extends to a similar sprocket-wheel 7, fixed on the shaft 8, journaled in the

frame of the window A, and the gear-wheel 3 with a sprocket-wheel 9, from which a sprocket-chain 10 extends to a sprocket-wheel 11 on the shaft 12, journaled in the frame of the window B. A second sprocket-wheel 13 is fixed on the shaft 8, from which an endless sprocket-chain 14 extends over the grooved guide-pulleys 15 15, journaled in the bracket 16, thence over similar pulleys 17 17 in the bracket 18, and around a sprocket-wheel 19, fixed on a shaft 20, journaled in the opposite side of the frame and horizontally parallel with the shaft 8. These shafts 8 and 20 are caused to simultaneously rotate in opposite directions on their axes by crossing the sprocket-chain 14 between the sprocket-wheel 13 and the guide-pulleys 15 15.

21 21 denote vertical brackets fixed on the inside faces of the window-frame, and each bracket is composed of the parallel angle-irons 22 22, one of the flanges of each of which is provided with suitable orifices to receive screws or nails, by means of which they are secured in place, while the opposite flanges are plane, and in their lower ends are journaled the shafts 8 and 20. Each shaft is provided with a spur-roller 23, over which an endless belt 24 extends to the roller 25, journaled in the upper end of said bracket 21. These belts 24 are each provided with a transverse cleat 26, which engages a corresponding groove 27 in the outer edge of the window-sash 28, and 29 denotes a vertical bearing-plate fixed between the parallel members 22 of said brackets, which serves as a bearing for the inside half of the belt to hold the cleat in the recess or groove in the window-sash.

It will thus be seen that when the crank 4 is rotated the upper sashes of both the windows A and B may be simultaneously raised or lowered, as desired.

Where the window-sashes are to be operated independently, the sprocket-chain 6 is dispensed with and a crank 30 is fixed to the end of the shaft 8 to rotate it. In Fig. 4 I have shown the outer end of this shaft 8 supported in a bracket 31, secured to a circular plate 32, which in turn is secured to the window-frame. This circular plate is provided with a concentric series of holes 33 to receive a pin 34, which extends into the path of the

crank 30, so as to prevent its rotation, and thus support the upper sash in the position to which it has been adjusted.

5 Instead of sprocket chains and wheels a flexible cord running over suitable pulleys fixed on the shafts 8 and 20 may be employed, in which event the cord is given several turns around the pulleys to prevent slipping.

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

15 1. In combination with the window-sash, formed with the transverse grooves 27, of the brackets 22 22, fixed in the sash-frame, parallel with said sash, the shafts 8 and 20, journaled in the lower ends of said brackets, the crank-handle 4 operatively connected to the shaft 8, the endless chain connecting said
20 shafts, the spur-rollers 23 23, fixed on said shafts, the guide-rollers 25 25, journaled in

the upper ends of said brackets, the endless belts 24 24, extending over said spur and guide rollers and the cleats 26 26 fixed to said belts and adapted to engage the grooves in said sash, substantially as shown and described. 25

2. In combination with the grooved sash, of the bracket 22, the bearing-plate 29, the rollers 23 25, the shaft 8 upon which the roller 23 is fixed, and the crank-handle 4 operatively
30 connected to said shaft, the endless belt 24, encompassing said plate and rollers and the cleat 26 fixed to said belt, so as to engage the groove in the said sash, substantially as shown and described. 35

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES H. STRAUSS.

Witnesses:

ANDREW WILSON,
BENJAMIN J. ROSTON.