

No. 657,367.

Patented Sept. 4, 1900.

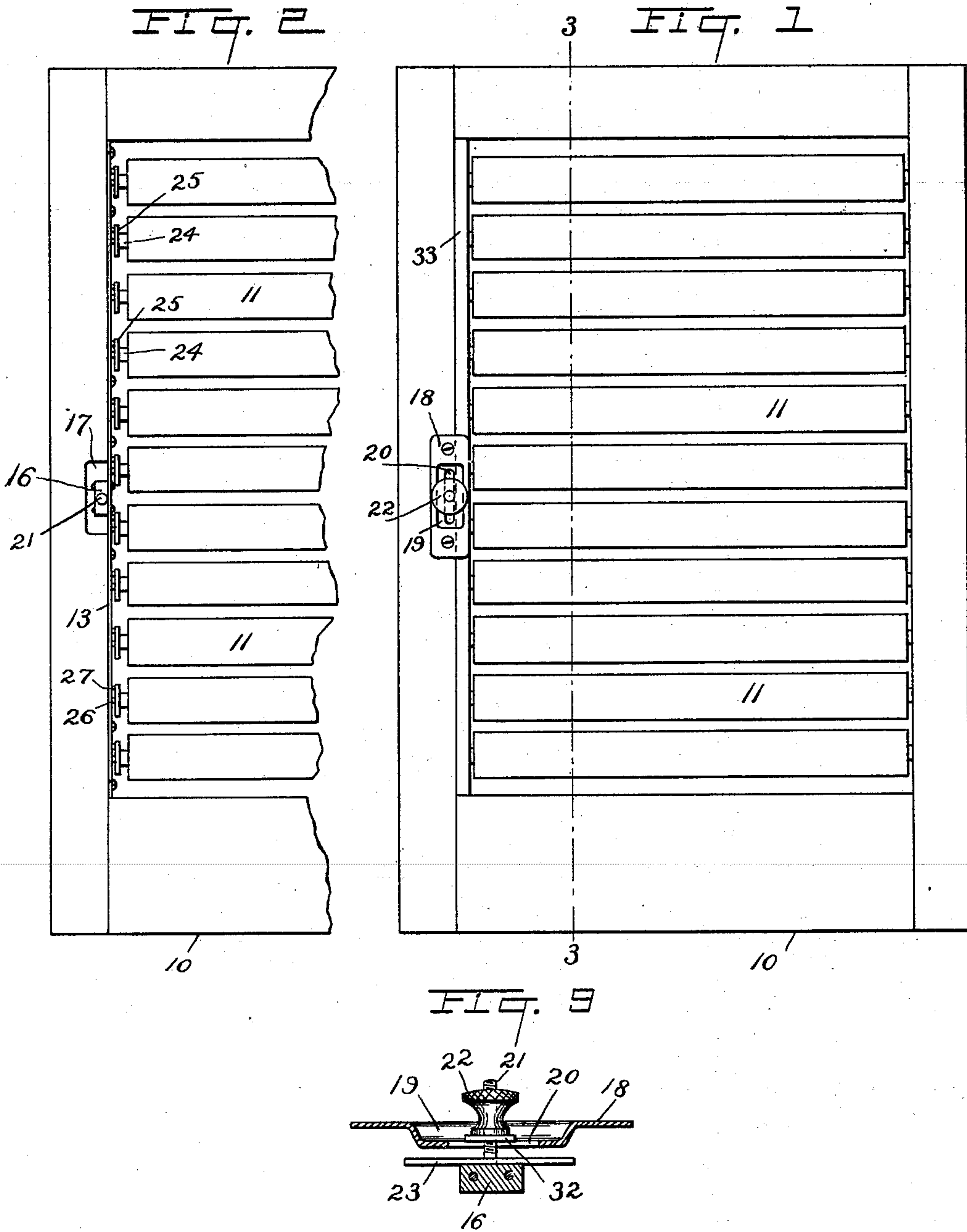
P. STARCK.

DEVICE FOR OPERATING SHUTTER SLATS.

(Application filed Apr. 20, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses  
Olwood Bell  
J. A. Stewart

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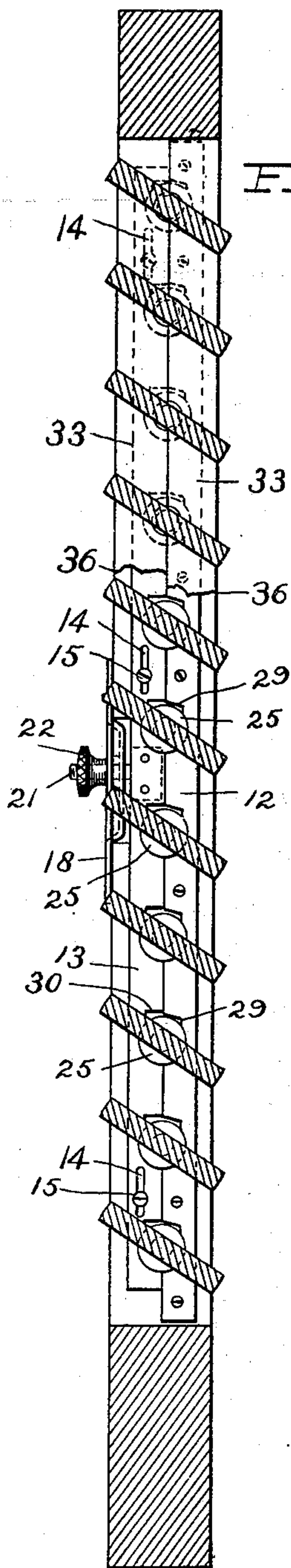


FIG. 3

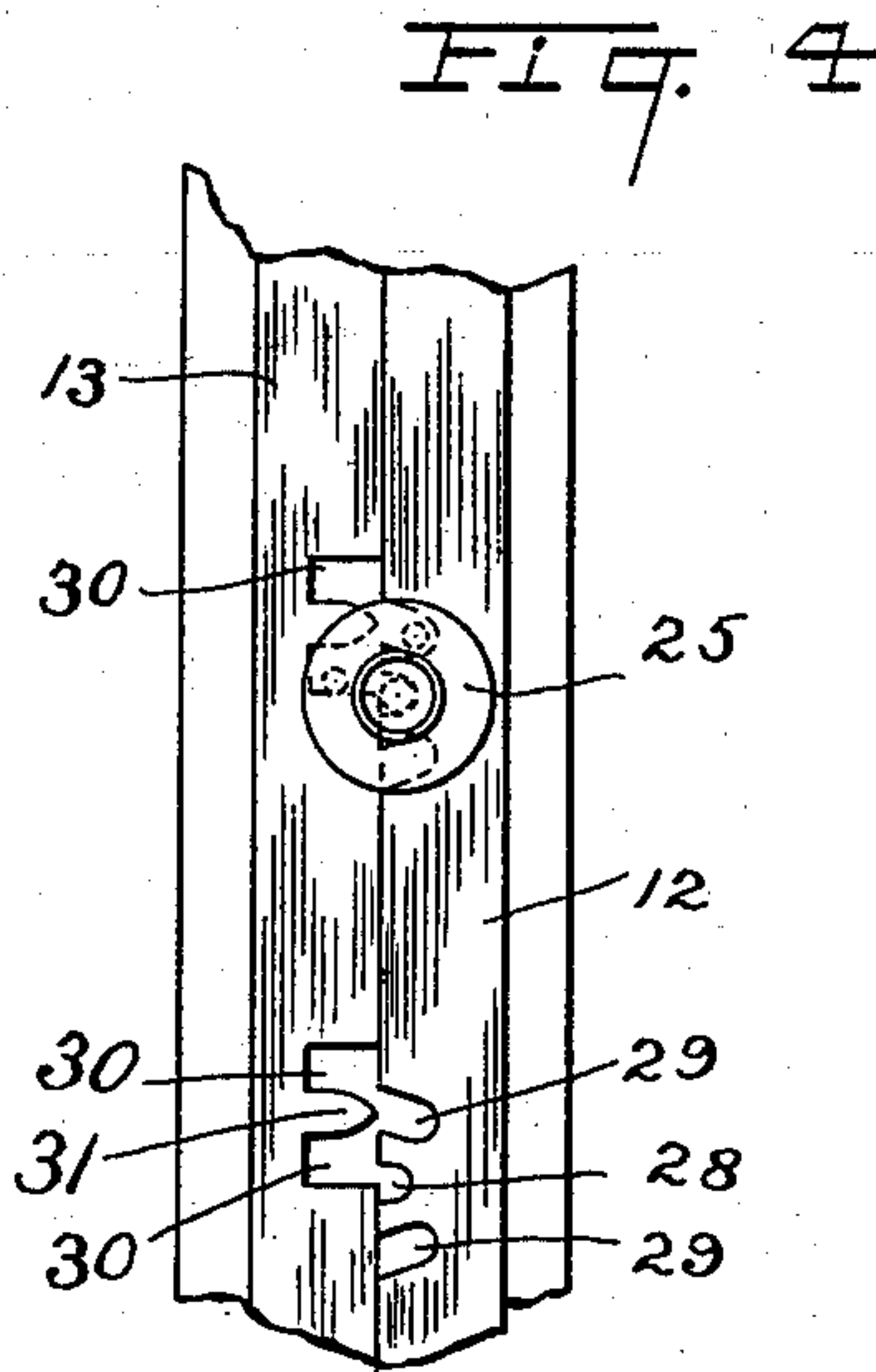


FIG. 4

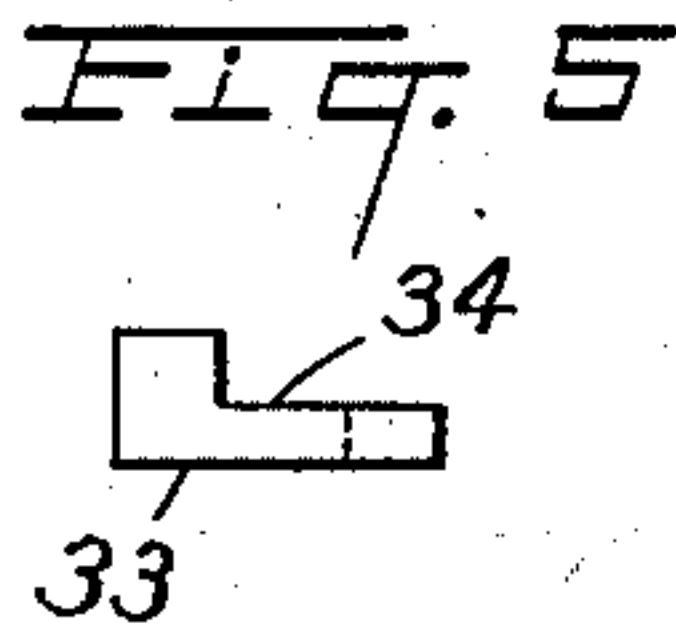


FIG. 5

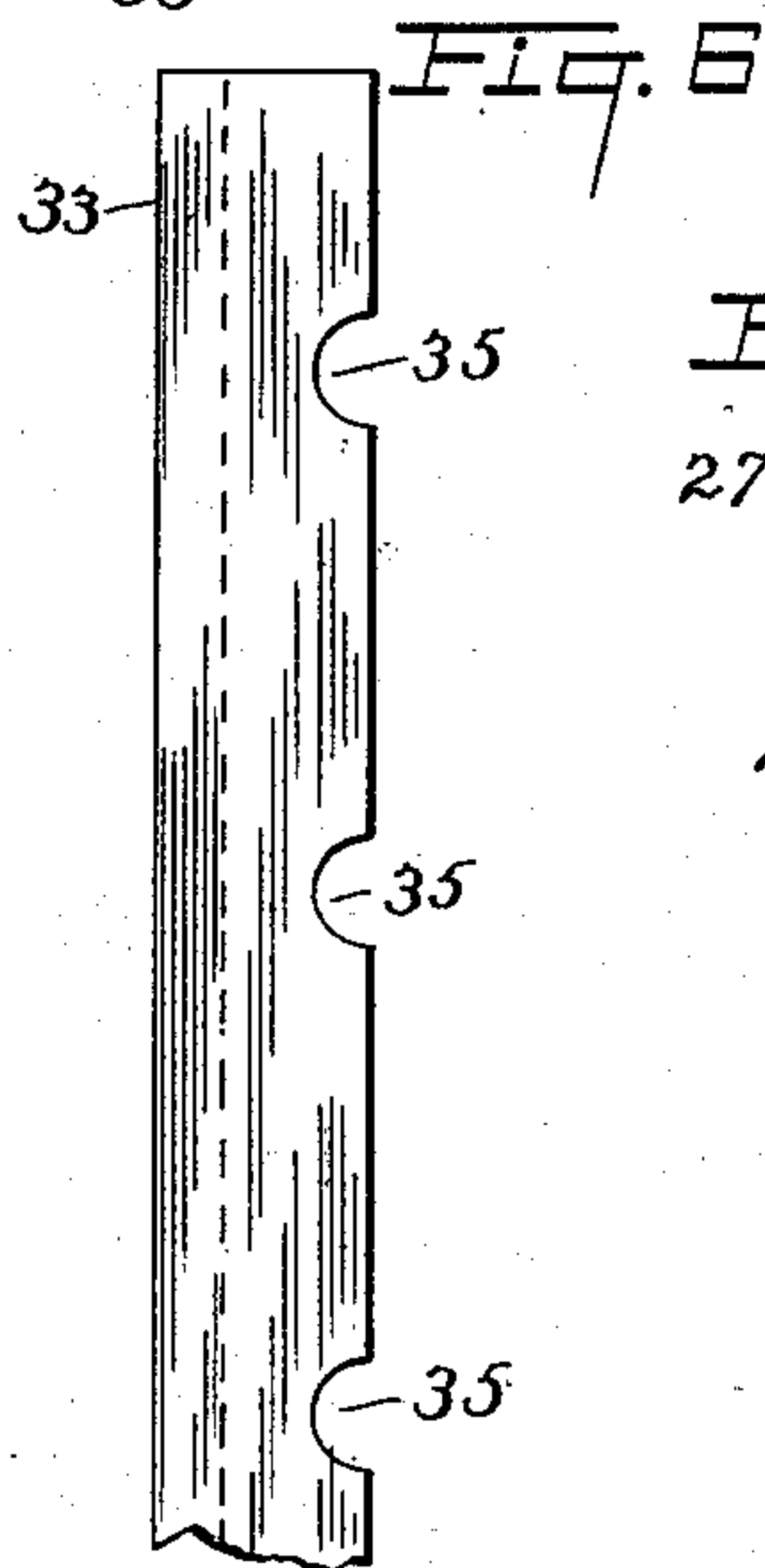


FIG. 6

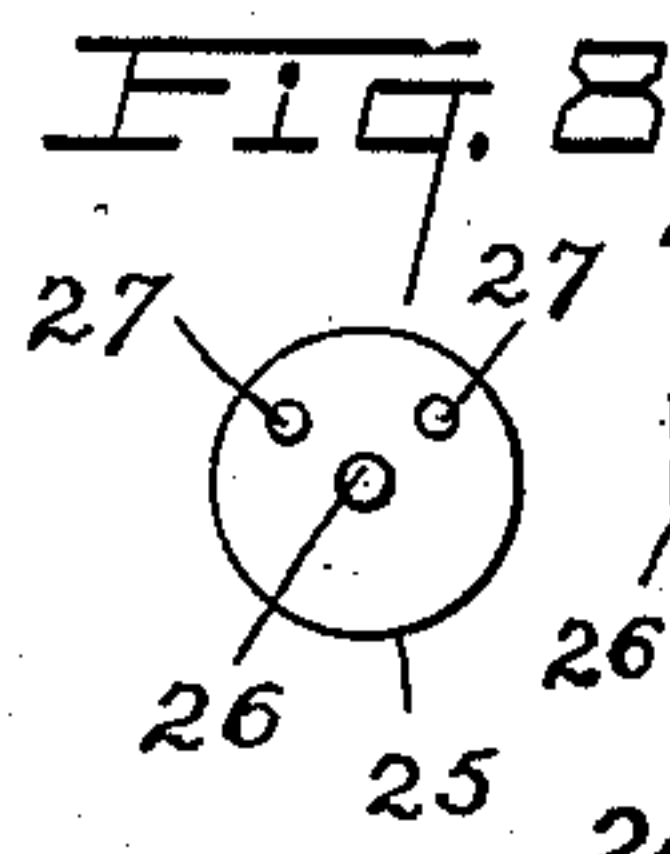


FIG. 8

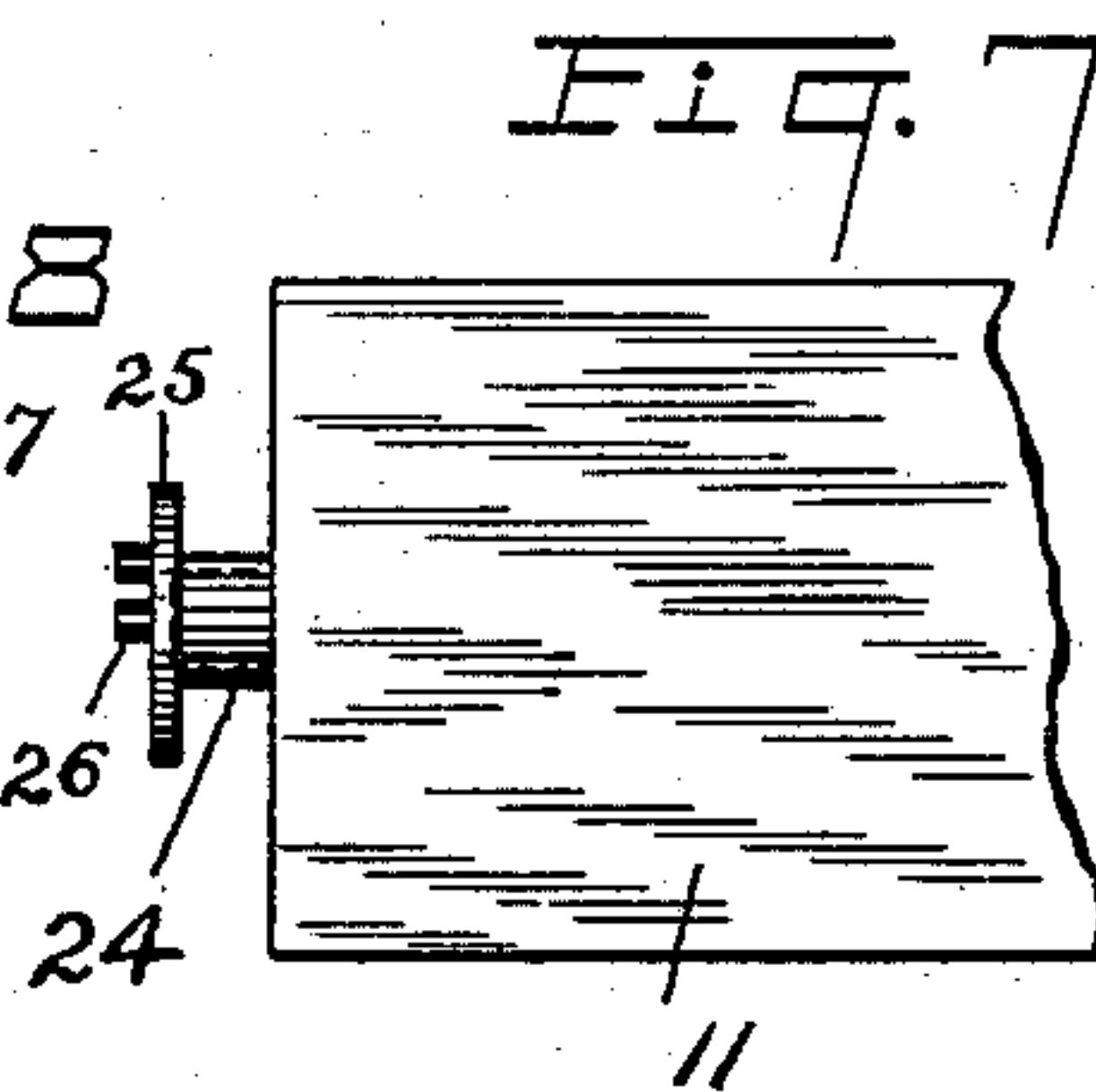


FIG. 7

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# UNITED STATES PATENT OFFICE.

PHILIP STARCK, OF NEW YORK, N. Y.

## DEVICE FOR OPERATING SHUTTER-SLATS.

SPECIFICATION forming part of Letters Patent No. 657,367, dated September 4, 1900.

Application filed April 20, 1900. Serial No. 13,588. (No model.)

*To all whom it may concern:*

Be it known that I, PHILIP STARCK, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Devices for Operating Shutter-Slats; of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to window-shutters, and particularly to devices for holding the slats of a shutter in any desired position; and the object thereof is to provide an improved device of this class which is simple in construction and operation and by means of which the slats of a shutter may be locked in any desired position and opened or closed without the use of a vertically-arranged rod pivotally connected with said slats, which has heretofore usually been employed in connection with window-shutters.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by the same reference characters in each of the views, and in which—

Figure 1 is an inside view of a window-shutter provided with my improvement; Fig. 2, a similar view of one side of the shutter with part of the improvement removed; Fig. 3, a section on the line 3 3 of Fig. 1, part of the construction being broken away; Fig. 4, an inside view of one side of the shutter, showing the parts connected therewith; Fig. 5, an end view of a detail of the construction; Fig. 6, a side view thereof; Fig. 7, a side view of one end of one of the slats, showing a part of my improvement connected therewith; Fig. 8 an end view of said part, and Fig. 9 a sectional detail of the construction I employ.

In the drawings forming a part of this specification I have shown in Fig. 1 at 10 an ordinary window-shutter provided with my improvement and in Fig. 2 a similar view of one side of said shutter, and this shutter is provided with the usual slats 11, and in the practice of my invention I secure to one side of the shutter, and preferably to the outer portion thereof, as shown in Figs. 3 and 4, a metal strip 12, and a similar metal strip 13 is

secured to the same side and to the front portion thereof by means of longitudinal slots 14, formed in said strip, and screws 15, which are passed through said slots and into the window-frame. The strip 13 is free to move vertically by reason of the above method of connecting it with the frame of the shutter; and in order to move said strip vertically I secure to the outer side thereof and centrally thereof a metal block 16, and a vertically-arranged recess 17 is formed in said side of the window-shutter to receive said block and in which said block is free to move. A metal plate 18 (see Figs. 1, 3, and 9) is secured to the side of the shutter over the recess 17, and said metal plate is preferably provided with a countersunk and vertically-arranged recess 19, in the bottom of which is a vertical slot 20, and a bolt 21 is secured to the block 16, which is secured to the metal strip 13 and passes outwardly through the slot 20 and is provided at its outer end with a set-nut 22, which serves as a knob, head, or handle to move the strip 13, and I also preferably place between the plate 18 and the block 16 a washer or friction-plate 23. By means of this construction it will be seen that the metal strip 12 is secured rigidly to the side of the shutter, while the metal strip 13 is free to move vertically, and the inner edges of said strips are flush and the strip 13 moves on the strip 12.

The ends of the slats 11 are provided, adjacent to the strips 12 and 13, each with a metal trunnion 24, having a circular head 25, which is provided with a central pivot-pin 26 and two eccentrically-arranged lugs or projections 27, which are both on the same side of a line passing diametrically through the circular head 25, as clearly shown in Figs. 7 and 8. The metal strip 12 at the point where the slats connect therewith and in the edge thereof adjacent to the metal strip 13 is provided with a recess 28, adapted to receive the pivot-pin 26, this construction being best shown in Fig. 4, and at each side of said recess 28 is a deeper recess 29, the inner ends of which converge, and the metal strip 13, adjacent to the recesses 28 and 29 in the metal strip 12, is provided with two recesses 30, which are preferably arranged transversely of said strip 13, and the recesses 29 and



30 are substantially of the same depth, and the recesses 30 in the strip 13 are separated by a projection 31, which is preferably pointed, as shown in Fig. 4. In the upper portion 5 of Fig. 4 the head 25 of the trunnion 24 is shown in full lines, while the pivot-pin 26 and lugs or projections 27 are shown in dotted lines, as is also one of the recesses 30 and both of the recesses 29. The pivot-pins 26 10 are free to turn in the recesses 28, and the movement of the strip 13 is never sufficient to allow said pivot-pins to be detached from said recesses through the recesses 30 in the strip 13, and when the slats 11 are closed 15 the lugs or projections 27 on the heads 25 of the trunnion 24 are in the recesses 30 of the strip 13, and by moving the strip 13 vertically one of the lugs or projections 27 will be turned into the corresponding recess 29 in the 20 strip 12, while the other lug or projection 27 will be turned farther into the recess 30 in the strip 13, and the reverse movement of the strip 13 will reverse this position of the lugs or projections 27, and by means of this arrangement 25 the slats 11 may be closed or turned in either direction, as will be readily understood. By means of the nut 22, which serves as a knob or handle for the strip 13, the block 16, and the plate 18, and the washer or friction-plate 30 23, if the latter is employed, may be securely drawn together, and the slats 11 may be thus locked in any desired position; but it will be apparent that the washer or friction-plate 23 need not necessarily be employed. I also 35 prefer to employ a washer or friction-plate 32, which is placed between the nut, knob, or handle 22 and the bottom of the plate 18 and which covers the slot 20 in said plate, and this washer or friction-plate facilitates the 40 operation of the parts, as will be readily understood. I also employ both at the front and back of the shutter a strip 33, preferably made of wood, and these strips 33 are designed to cover the trunnions 24 and the 45 heads thereof, as clearly shown in Fig. 1. The strips 33 are of the form shown in Figs. 5 and 6, the former being an end view and the latter a side view of one of said strips, and said strips are provided on said inner sides 50 with rabbet-grooves 34 and at their inner edges with semicircular recesses 35, in which the trunnions 24 work, and said strips may be secured in place in any desired manner. In Fig. 3 the upper ends of the strips 33 are 55 shown; but the lower portion of said strips 33 are broken away, as indicated at 36, so as to better show the construction and arrangement of the strips 12 and 13. By means of these devices all that is necessary to adjust 60 the slats 11 to any desired position is to loosen the nut 22 and move the bolt 21 up or down in the plate 18, and by tightening said nut the said slats may be locked in any desired position, as will be readily understood. 65 It will be apparent that the herein-described apparatus may be applied to skylights, as well as to window-shutters and to various

other and similar purposes, and said apparatus is simple in construction and effective in operation and may be applied to window-shutters of any kind or class, and it will be 70 apparent that changes in and modifications of the construction herein described may be made without departing from the spirit of my invention. 75

Having fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A window-shutter the slats of which are provided at one end with trunnions bearing 80 a central pivot-pin, and two eccentric lugs or projections, the frame of said shutter being also provided with a stationary and a movable strip, the stationary strip being provided with pivot-recesses, and at each side 85 thereof with deeper and converging recesses, and the movable strip being provided adjacent to the recesses in the stationary strip, with two recesses, and means for moving the movable strip and for locking it in position, 90 substantially as shown and described.

2. A window-shutter the slats of which are provided at one end with a trunnion having a circular head provided centrally thereof with a pivot-pin, and at one side thereof with 95 two lugs or projections, the shutter being also provided at said end of said slats with a vertically-arranged stationary strip, and with a movable strip adjacent thereto, said stationary strip being provided at the end of each 100 slat with a pivot-recess, and at the sides thereof with converging, deeper recesses, and the movable strip being provided at the end of each slat with two recesses, the converging 105 recesses in the stationary strip and the recesses in the movable strip being adapted to receive the lugs or projections on the head of the trunnions, and means for moving said movable strip, substantially as shown and described. 110

3. A window-shutter the slats of which are provided at one end with a trunnion having a circular head provided centrally thereof with a pivot-pin, and at one side thereof with 115 two lugs or projections, the shutter being also provided at said end of said slats with a vertically-arranged stationary strip, and with a movable strip adjacent thereto, said stationary strip being provided at the end of each 120 slat with a pivot-recess, and at the sides thereof with converging, deeper recesses, and the movable strip being provided at the end of each slat with two recesses, the converging 125 recesses in the stationary strip and the recesses in the movable strip being adapted to receive the lugs or projections on the head of the trunnions, and means for moving said movable strip, said shutter being also provided with detachable strips arranged to 130 cover said trunnions and the heads thereof, substantially as shown and described.

4. A window-shutter the slats of which are provided at one end with a pivot, and lugs or projections arranged eccentrically to said



pivot and on the same side thereof, said shutter being also provided at said end of said slot with a stationary and a movable strip, the stationary strip being provided with a pivot-recess, and said stationary and movable strips being provided with recesses adapted to receive said lugs or projections, substantially as shown and described.

5. In an apparatus of the class described, a rotatable member provided with a pivot-pin, and at one side thereof with two lugs or projections arranged eccentrically thereto, said rotatable member being mounted in a frame provided with a stationary and a movable strip, said stationary strip being provided with a pivot-recess, and at the opposite side thereof with other recesses adapted to receive said lugs or projections, and the movable strip being also provided with recesses adapted to receive said lugs or projections, substantially as shown and described.

6. In an apparatus of the class described, a rotatable member provided with a trunnion having a circular head, a pivot-pin arranged centrally of said head, and lugs or projections arranged eccentrically to said pin, and a support for the end of said rotatable member, said support being provided with a stationary and a movable strip, the stationary strip being provided with a pivot-recess to receive said pivot-pin, and said movable and stationary strips being provided with recesses adapted to receive said lugs or projections, substantially as shown and described.

7. The herein-described devices for moving a rotatable member in a support and for locking said member in any desired position, consisting of a pivot-pin at one end of said rotatable member, and lugs or projections arranged eccentrically thereto, said support being provided with a stationary member and a movable member, the stationary member

being provided with a recess to receive the pivot-pin, and at the opposite sides thereof with recesses to receive said lugs or projections, and the movable member adjacent to the stationary member being also provided with recesses to receive said lugs or projections, and devices for moving said movable member and for locking it in any desired position, substantially as shown and described.

8. In an apparatus of the class described, a support, a rotatable member mounted therein and provided at one end with a pivot-pin, and lugs or projections arranged eccentrically thereto, said support being provided with a recess to receive said pivot-pin, and with deeper recesses to receive said lugs or projections, and a movable strip connected with said support and provided with recesses which are also adapted to receive said lugs or projections, substantially as shown and described.

9. In an apparatus of the class described, a support, a rotatable member mounted therein and provided at one end with a pivot-pin, and lugs or projections arranged eccentrically thereto, said support being provided with a recess to receive said pivot-pin, and with deeper recesses to receive said lugs or projections, and a movable strip connected with said support and provided with recesses which are also adapted to receive said lugs or projections, and means for operating said movable strip, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 18th day of April, 1900.

PHILIP STARCK.

Witnesses:

T. A. STEWART,  
V. M. VOSLER.