

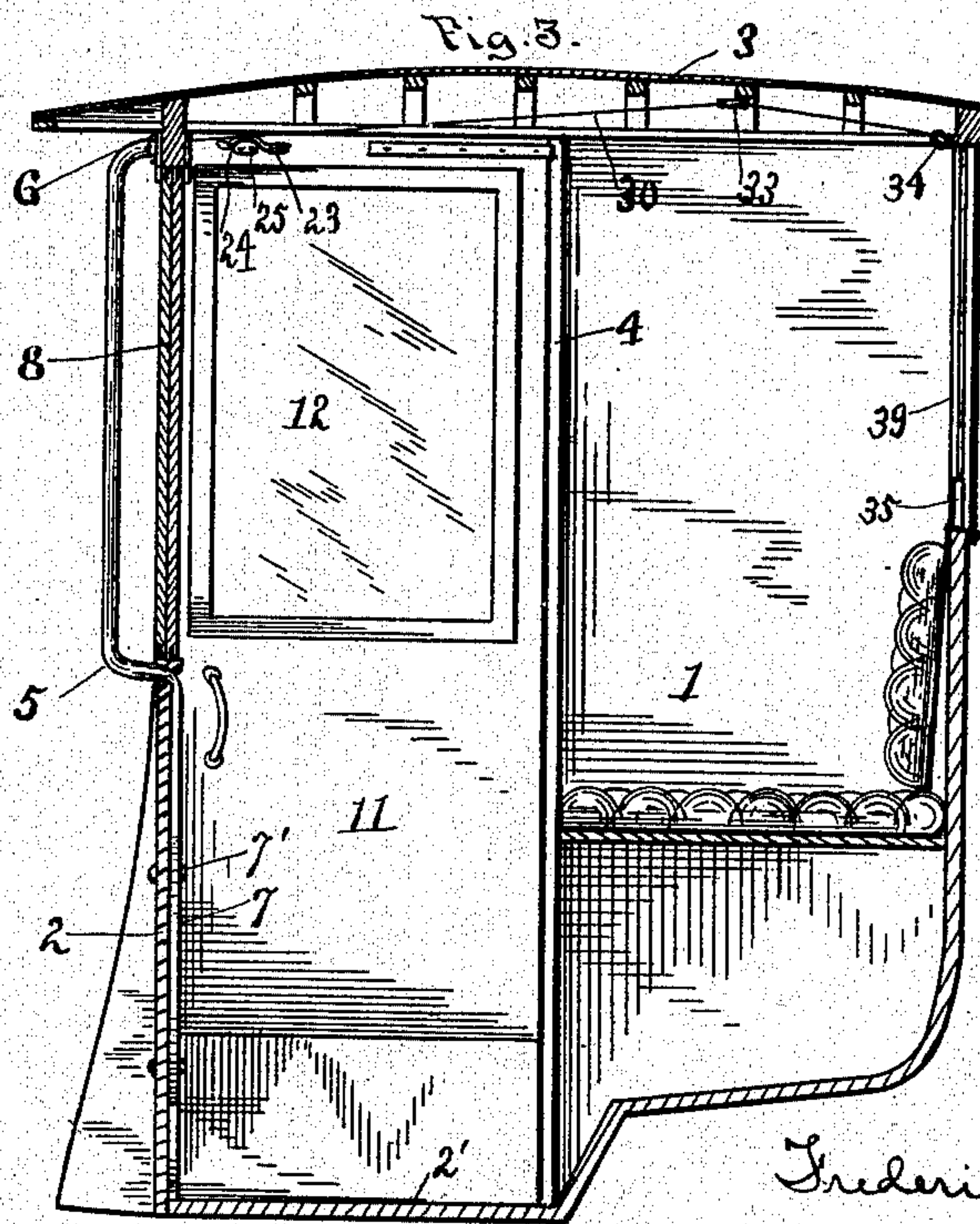
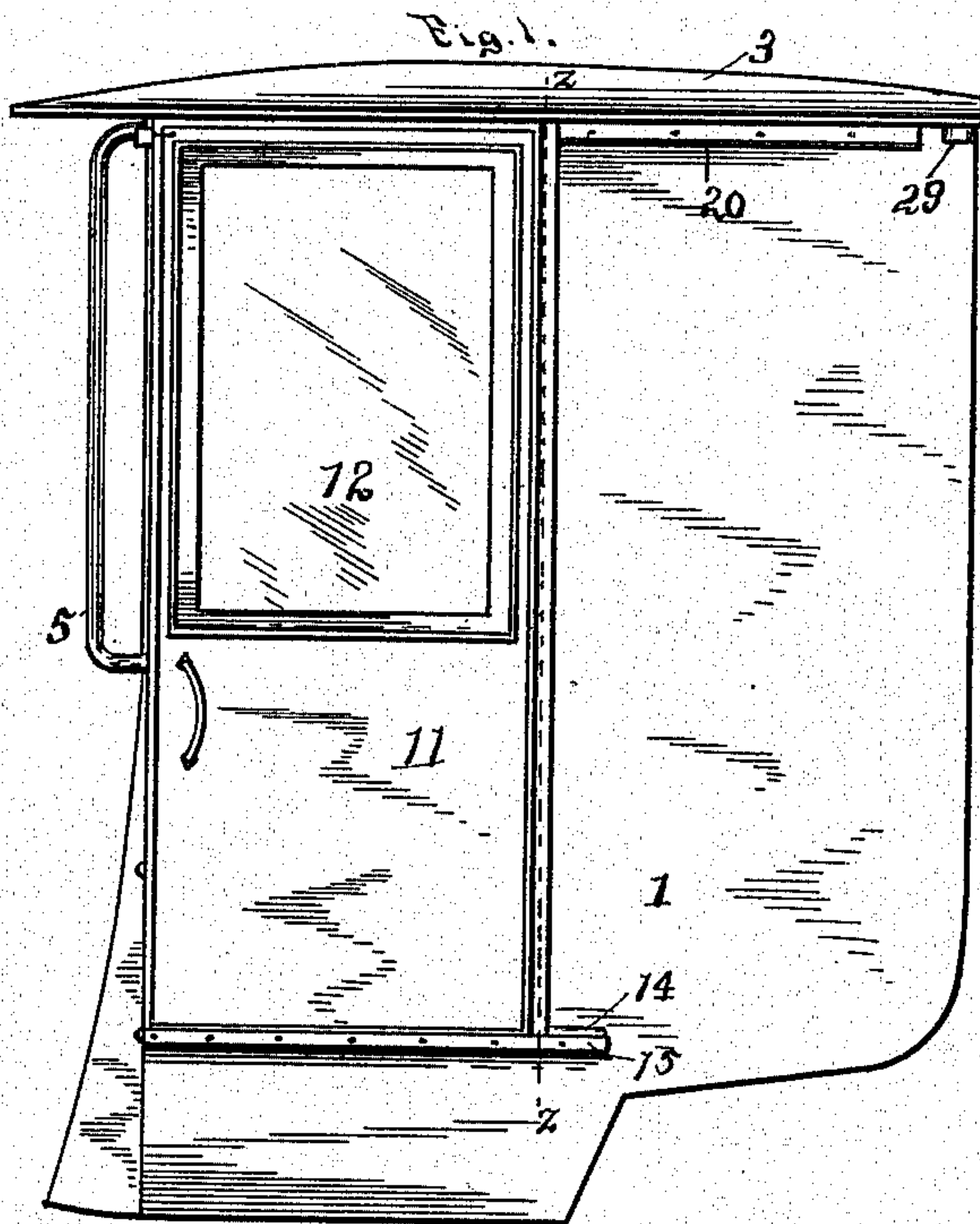
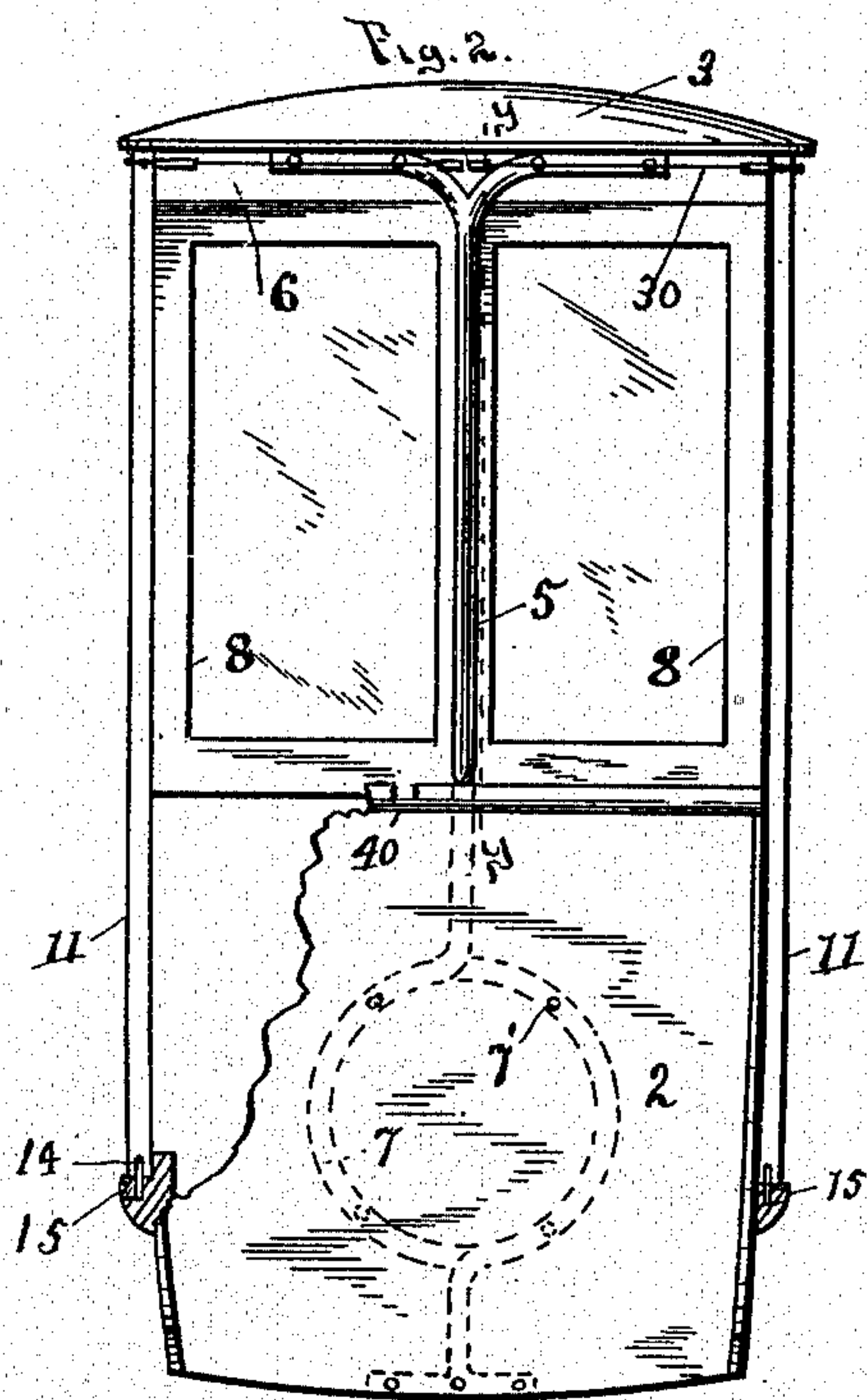
(No Model.)

F. W. ZIMMER.  
CARRIAGE.

2 Sheets—Sheet 1.

No. 505,015.

Patented Sept. 12, 1893.



Witnesses:  
J. E. Bates

Wallace M. Mudgett

Inventor,  
Frederick W. Zimmer

By  
Church & Church  
his Attys



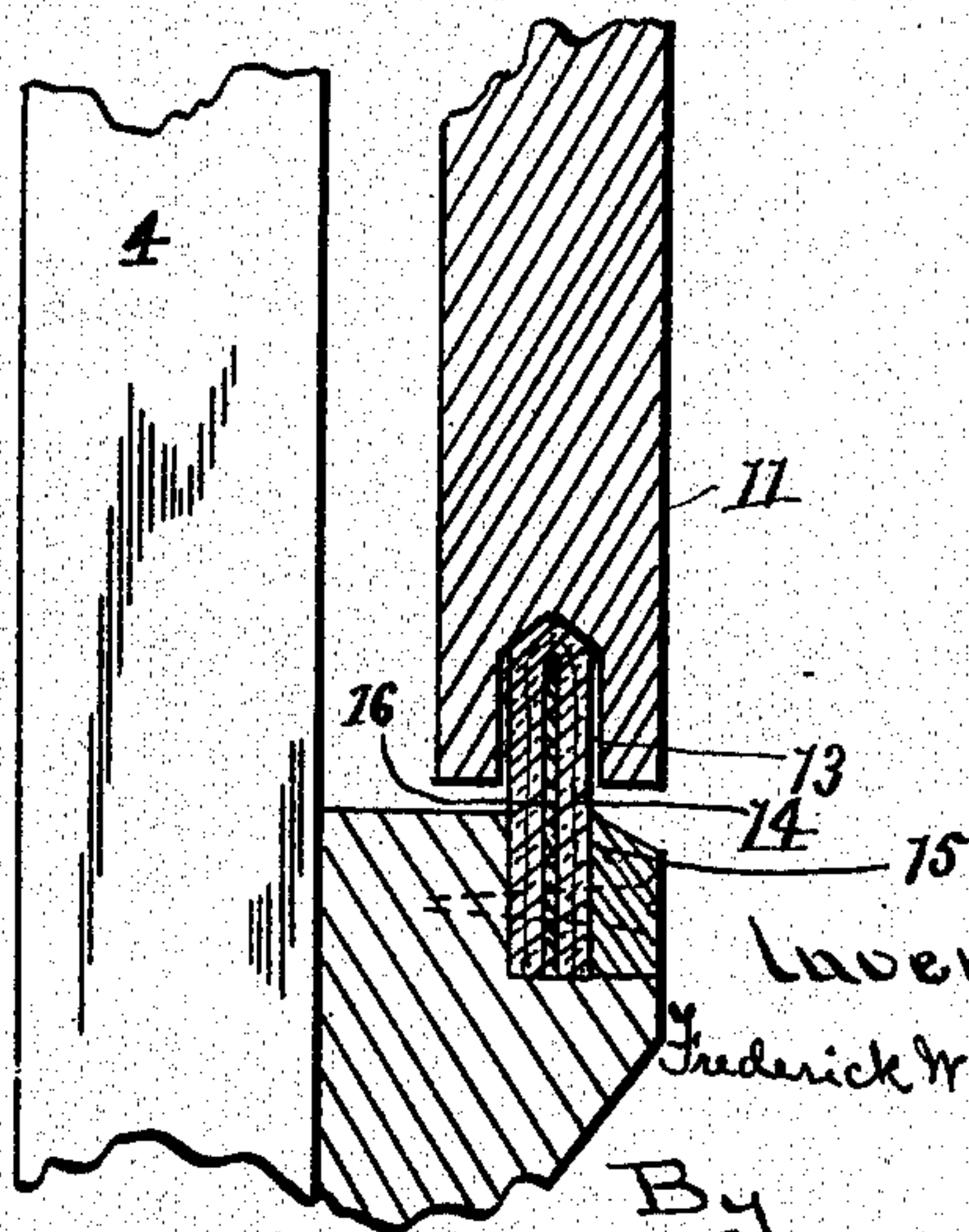
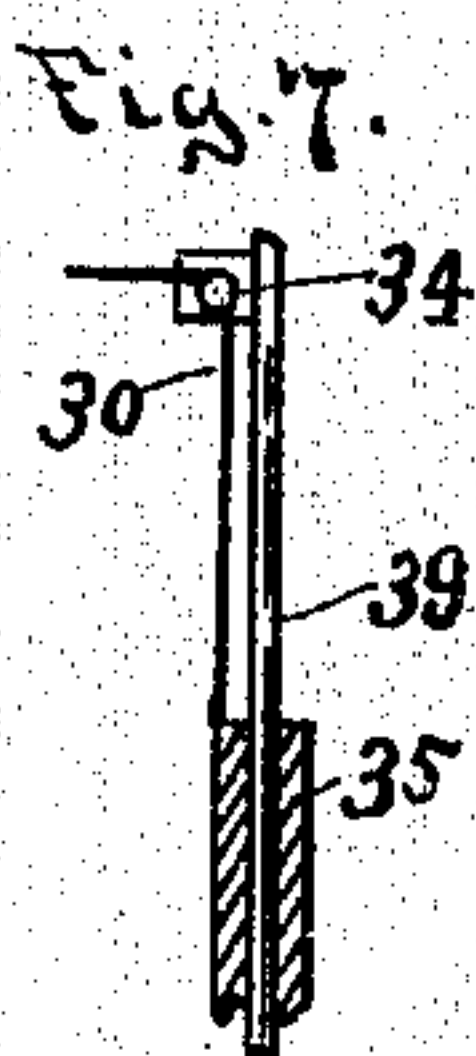
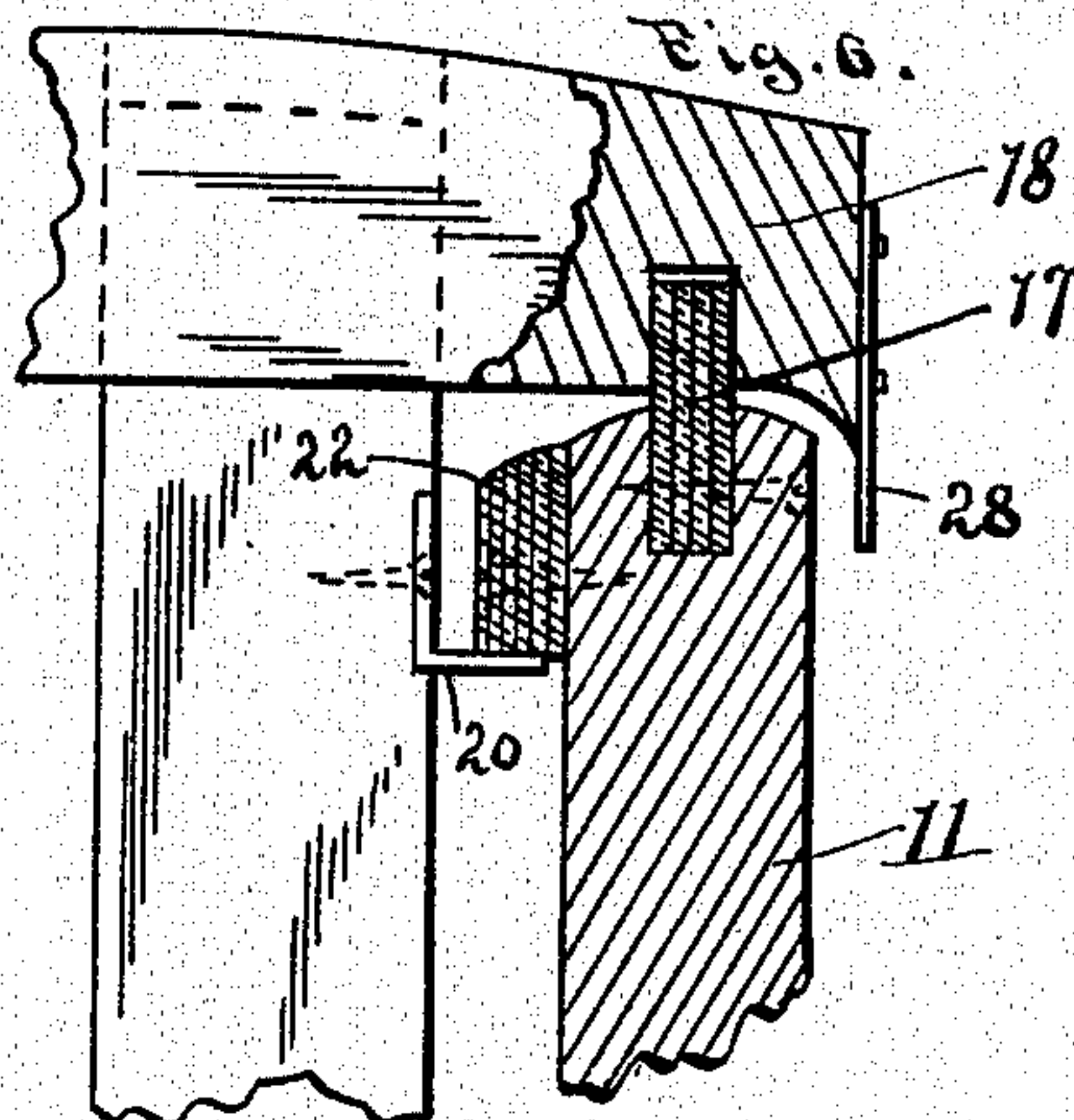
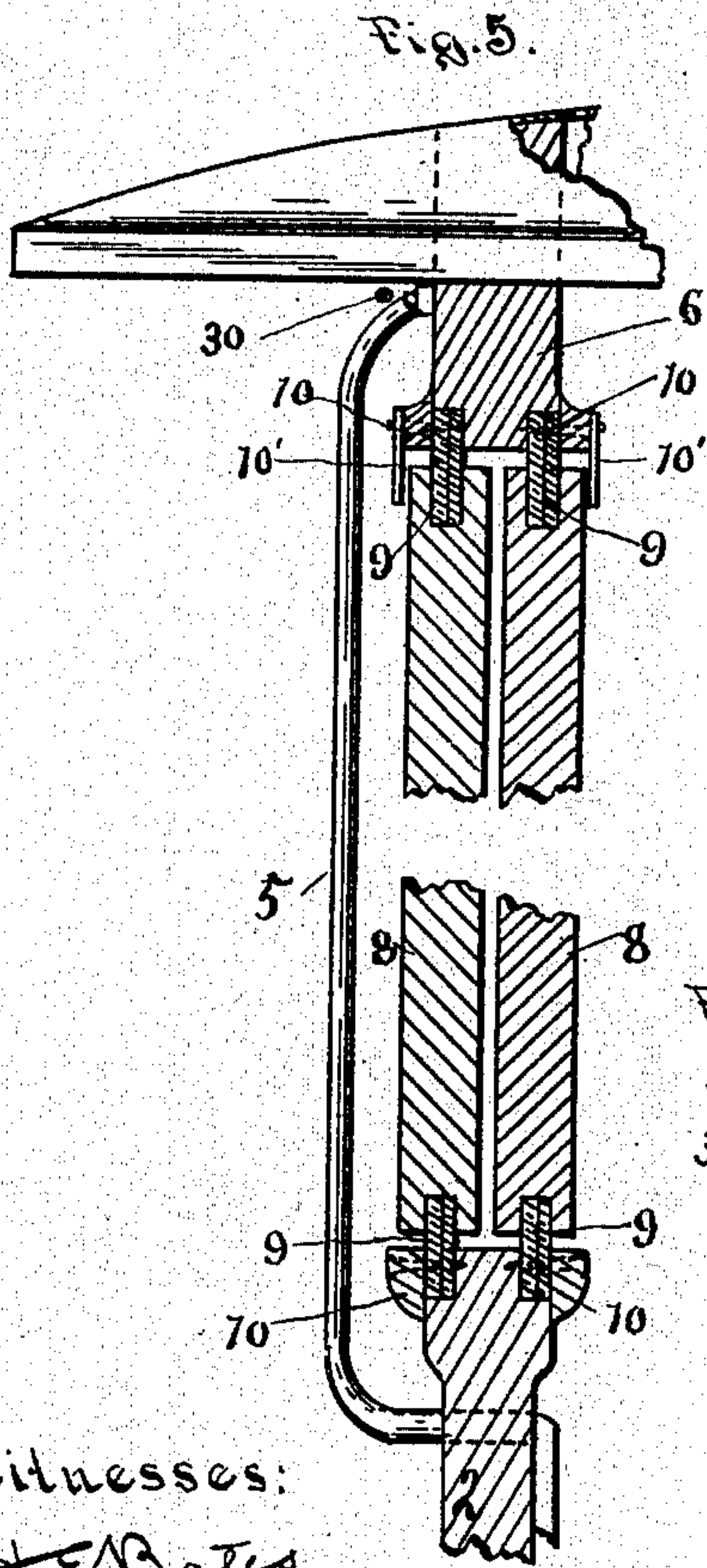
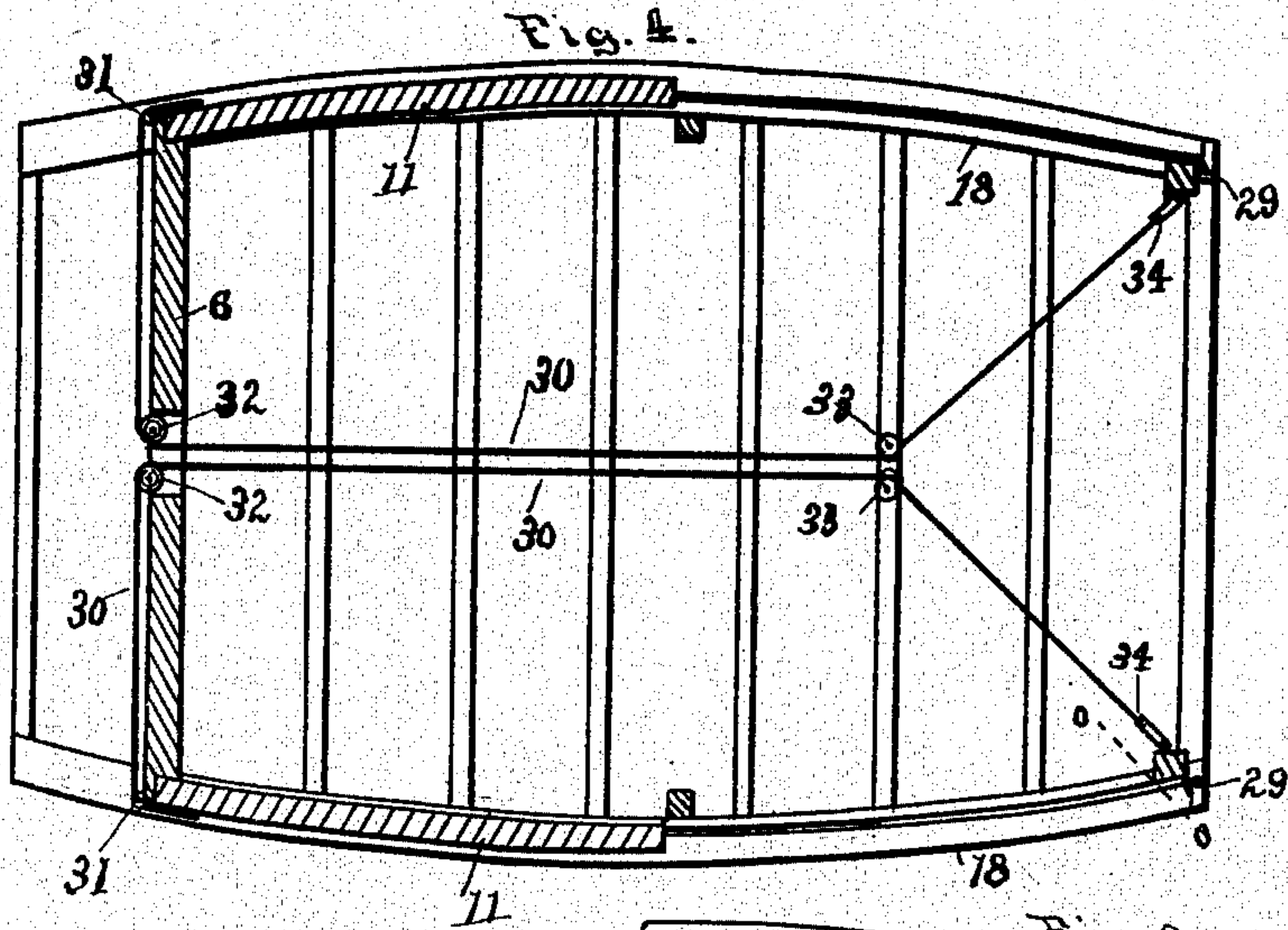
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F. W. ZIMMER.  
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# UNITED STATES PATENT OFFICE.

FREDERICK W. ZIMMER, OF ROCHESTER, NEW YORK.

## CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 505,015, dated September 12, 1893.

Application filed January 17, 1893. Serial No. 458,673. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK W. ZIMMER, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Carriages; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference-numerals marked thereon.

My present invention has for its objects to improve the construction of that class of carriages for which Letters Patent No. 394,239 were granted me December 11, 1888, adapted for physicians' use, embodying sliding doors at the sides and front, and consists in certain improvements in construction and combinations of parts, all as will be hereinafter described and the novel features pointed out particularly in the claims at the end of this specification.

In the drawings: Figure 1 is a side elevation partly in section of a carriage embodying my improvements; Fig. 2, a front elevation of the same with a portion of the dash broken away; Fig. 3, a longitudinal-sectional view; Fig. 4, a section on the line  $x-x$  of Fig. 1 looking upward; Fig. 5, a section on the line  $y-y$  of Fig. 2; Fig. 6, a section taken on the line  $z-z$  of Fig. 1; Fig. 7, a detail view on the line  $o-o$  of Fig. 4.

Similar reference numerals in the several figures indicate similar parts.

The body 1 of the carriage may be constructed as shown in my previous patent, or in any other similar manner, having a dash 2, a bottom 2', and a top 3, suitable standards 4 being preferably arranged on the sides and forming the rear sides of the door openings. There are no standards at the forward corners of the vehicle, as at this point the movable windows and the doors come together, but the dash is strengthened and the forward part of the top is supported by means of a centrally arranged metal standard 5 secured by suitable feet to the bottom 2' of the carriage on the inside and extending out through the dash and upward, where it is secured to the top cross beam or rail 6, as in Figs. 1 and 2; the portion inside the dash being widened out into a ring 7 so as to have a broad bearing, bolted to the dash by bolts 7',

and serving to support it more firmly, as will be understood.

Extending between the dash and the top rail 6 are the window sashes 8 having grooves in their upper and lower sides in which project beads or strips 9 consisting of rubber, or preferably the ordinary rubber belting composed of rubber and canvas, said strips being secured in place by suitable moldings or covering strips 10, 10, small plates 10' preventing the entrance of ice or snow at the top. These windows are adapted to be slid to one side or the other, when desired, and in summer may be removed entirely, leaving a practically free and unobstructed opening at the front. This arrangement of rubber strips or beads on which the window sashes slide and on which they are supported I find preferable to sliding the sashes in grooves in the wood as it prevents all rattling, and, as well, the accidental movement caused by the vibrations of the vehicle, and furthermore can be replaced when worn at very slight cost.

The doors 11 arranged at the sides of the vehicle are provided with the usual glass panels 12 and at the lower portion have a groove 13 within which fits a rail or strip 14 of rubber fabric or belting secured in place by a strip 15 secured on the outside as shown, or it could be otherwise fastened, if desired. While it is not essential, I prefer to stiffen the rail 14 by means of a central supporting strip or plate 16 of metal inserted within it, or over which a thin piece of belting or fabric may be folded and secured, as shown in Figs. 3 and 5. Fastened in grooves in the upper edges of the doors 11, are strips 17 of rubber fabric or belting arranged to slide in grooves formed in the upper side rails 18 which extend the length of the carriage on the side and not only form a guide and support for the upper end of the door, but one that will not rattle and which will prevent the beating in of rain, snow or sleet. The lower strips or rails 14 on which the lower ends of the doors run, extend only the length of the doors, so that when the latter are closed there is no liability of the rails being clogged with ice or snow and the doors prevented from opening.

For the purpose of supporting the doors when slid open and at the same time preventing rattling, the rails or strips 20, preferably



composed of an L-shaped piece of metal, are fastened by screws or suitable securing devices, as shown, to the side of the carriage, which strips serve to support the doors by projecting beneath the strips 22 of rubber or rubber fabric secured to the upper edge of the inner side and extending about half the length, as shown in Fig. 5, forming a noiseless bearing, and when the doors slide back, their lower forward ends remain engaged with the end of the lower rail 14, as in Fig. 1, and prevent the door from swinging out, and an overhanging strip 28 prevents the rail from being clogged. A stop block 29 is provided on the upper rail for preventing the extreme backward movement of the door. In order to further fasten the door when closed, I arrange a spring 23 at the top near the forward part having a depression 24 adapted to engage a projection 25 on the door and forming a catch readily disengaged by a sharp pull on the door.

For the purpose of readily opening the doors I provide cords 30 fastened to their upper corners, extending over pulleys 31 at the corners of the front upper rail, thence through said rail around pulleys 32, through guide pulleys 33 on the top, thence over pulleys 34 at the rear corners and downward where they are attached to weights 35 sliding on guiding rods 39. These weights are simply for the purpose of taking up the slack of the cords when the doors are closed and could be replaced by other equivalent devices, if desired. The occupant can readily close both doors, when desired, by grasping both cords at the top of the vehicle where they are close together and pulling backward, this obviating his reaching over the person next him if the door to be closed is on the side occupied by the latter. It will be understood that suitable rein apertures 40 are provided in the dash, as usual.

By providing the doors and windows with rails or guiding strips of the rubber belting or fabric, now on the market, I find the construction of the parts not only simplified, but cheapened, and from practical use have demonstrated that the objectionable rattle and noise of carriages of this description is prevented. Besides this, the parts wear very slightly and the entrance of cold air is prevented and as projecting rails or strips are used instead of grooved rails in which the doors and windows slide, there is no opportunity for the parts becoming clogged by ice or snow, this being an important consideration, as this class of carriages is particularly adapted for use in stormy weather.

I claim as my invention—

1. In a carriage of the class described, the combination with the door having the groove in the lower end and the rubber strip at the

side near the top, of the body having the upper side rail and the laterally projecting strip extending beneath the strip on the side of the door, and the rubber bottom rail entering the groove in the door, substantially as described.

2. In a carriage of the class described, the combination with the door having the groove in its lower end and the strip or ledge on the side near the top, of the body, the laterally projecting strip secured thereto, said strip projecting beneath the strip on the side of the door, and the rubber bottom rail entering the groove in the door, substantially as described.

3. The combination with the carriage body having the upper side rail provided with the longitudinal groove and the laterally projecting door supporting strip, and the rubber bottom rail, of the door having the groove in the bottom, the strip or ledge on the side near the top and the rubber strip secured to the top of the door, substantially as described.

4. In a carriage of the class described, the combination with the body having the dash, the upper side rail and the laterally projecting strip on the body, and the short bottom rail of rubber having the central stiffening piece, of the door having the recess in the lower end, and the ledge or strip on the side near the top, substantially as described.

5. The combination with the carriage body and bottom, and the top rail, of the dash, the vertical brace secured to the body bottom extending up inside the dash, thence through the latter and upward and connected to the carriage top, and the sashes sliding between the sash and top and supported by them, substantially as described.

6. In a carriage such as described, the combination with the front top rail having the two rubber strips secured thereto and the dash having corresponding rubber strips, of the two sliding sashes supported between the strips on the top rail and dash and having grooves for the accommodation of the strips, substantially as described.

7. In a vehicle, the combination with the sliding door, of the cord connected to the door, guiding pulleys therefor, and a weight for taking up the slack in said cord, not heavy enough to operate the door substantially as described.

8. In a vehicle, the combination with the seat and the sliding door, of the cord connected to said door, and extending in proximity to the seat, the weight connected to the cord and the guide rod on which the weight slides, substantially as described.

FREDERICK W. ZIMMER.

Witnesses:

FRED F. CHURCH,  
G. A. RODA.